State of Health in Bihar

POPULATION FOUNDATION OF INDIA

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Acknowledgements

The idea of a comprehensive document on the State of Health in Bihar germinated while developing the book *India Socio-Demographic Development Index, 2007* for policymakers and planners. This book looks substantially into some of the important issues affecting the health status of the people in Bihar. It views 'health' from a broader development perspective rather than purely health indicators. It also explores the possibility of a more effective future direction for healthcare in the state.

This book was made possible due to the effort of many people at various levels. We extend our thanks to all of them. We are grateful to Mr A R Nanda for giving us the opportunity to undertake this assignment and for providing continuous guidance and motivation. We are grateful to our colleagues Dr Kumudha Aruldas, Sona Sharma, Dr Sharmila Ghosh Neogi and Dr Lalitendu Jagatdeb. We also greatly appreciate the support of our colleagues Sanjay Kumar Singh, Matish Kumar, Amrit Kumar Rawat in Bihar and Nihar Ranjan Mishra in Delhi. Our special thanks to the Registrar General of India for providing the maps, the Government of Bihar and Population Foundation of India documentation centre for providing us with relevant information. We extend our sincere thanks to Shailender Singh Negi and Gajinder Pal Singh Seerah for providing valuable technical assistance in data management and Arthur Monteiro for editorial inputs. We are indebted to the David and Lucile Packard Foundation for providing financial support for publishing this book.

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Foreword

The Population Foundation of India's strategic focus is advocacy and action research on critical issues of population. It advocates rights-based, gender-sensitive policies, programmes, strategies and interventions for population stabilization, health and social development.

One of the features of this advocacy is to publish relevant information on states and districts in the country. As part of its advocacy conference on Population, Health and Social Development in 2002 in Bihar, PFI released the district profile for Bihar in 2002 based on data from the Census of 2001 and District Rapid Household Survey 1998-99. The publication was well received and created a large-scale demand for similar publications.

The linkage between health and development is an established concept. The need to integrate these two has become an important concern for us today. Trying to change and improve the health status of people in isolation is like chasing a mirage. It can happen only when all other corresponding improvements are seen in related areas in social, economic and environmental sectors. These efforts should also be based on evidence which reflects the reality and the need. This publication brings out the current reality of the health and population scenario of the state of Bihar based on reliable data. It reflects the current context of the health status, and the gaps and priorities which need to be addressed in a development-oriented approach.

This document provides a holistic overview of Bihar, and includes the demographic and socio-economic status in the state, assessment of its health situation, the current health delivery system, and district profiles. It identifies areas of concern and explores policy options, which may expedite improvement of human development in the state.

This publication is an endeavour to help policymakers, the state government, district administrations, planners, programme managers and NGOs with information for improving social conditions. We hope that the insights gained from it will help and motivate governmental and non-governmental agencies to work towards creating a healthy population in Bihar.

October 2007
New Delhi

A R Nanda
Executive Director, PFI

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AIDS	Acquired Immuno Deficiency Syndrome
ANC	Ante Natal Care
ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infection
ASDR	Age Specific Death Rate
ASFR	Age-Specific Fertility Rate
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
BCC	Behaviour Change Communication
BMI	Body Mass Index
BoD	Burden of Disease
BPL	Below Poverty Line
BSACS	Bihar State AIDS Control Society
BSS	Behaviour Sentinel Surveys
CBO	Community Based Organization
CBHA	Central Bureau of Health Information
CBR	Crude Birth Rate
CDR	Crude Death Rate
CES	Coverage Evaluation Report
CGHS	Central Government Health Services
CHC	Community Health Centre
CHW	Community Health Worker
CNA	Community Needs Assessment
CPR	Contraceptive Prevalence Rate
CSR	Child Sex Ratio
CVD	Cardio Vascular Disease
DALYs	Disability Adjusted Life Years
DLHS	District Level Household Survey
DNP	District Nutrition Profile

DOTS	Directly Observed Treatment, Short-course
DPT	Diptheria Pertusis Tetanus
DRHS	District Rapid Household Survey
EIP	Expanded Immunization Programme
EMCP	Enhanced Malaria Control Project
EMoC	Emergency Obstetric Care
ESIS	Employment State Insurance Scheme
FRU	First Referral Unit
FSW	Female Sex Worker
GBoD	Global Burden of Disease
GDI	Gender Disparity Index
GFR	Gross Fertility Rate
GRR	Gross Reproduction Rate
HBNC	Home Based Neo-natal Care
HDI	Human Development Index
HIV	Human Immuno-deficiency Virus
HMIS	Health Management Information System
ICDS	Integrated Child Development Scheme
ICMR	Indian Council of Medical Research
ICPD	International Conference on Population and Development
IEC	Information Education Communication
IFA	Iron and Folic Acid
IMNCI	Integrated Management of Nutrition and Childhood Illnesses
IMR	Infant Mortality Rate
IUD	Intra-uterine Device
JE	Japanese Encephalitis
LBW	Low Birth Weight
LHV	Lady Health Visitor
MDG	Millennium Development Goals
MDT	Multi Drug Treatment
MIS	Management Information System
MLA	Member of Legislative Assembly
MMR	Maternal Mortality Ratio
MoHFW	Ministry of Health and Family Welfare
MTP	Medical Termination of Pregnancy
NACO	National AIDS Control Organization

NAMP	National Anti-Malaria Programme
NCAER	National Council of Applied Economic Research
NCC	National Cadet Corps
NCD	Non-Communicable Diseases
NHP	National Health Policy
NFHS	National Family Health Survey
NGO	Non Government Organization
NLEP	National Leprosy Eradication Programme
NPP	National Population Policy
NRHM	National Rural Health Mission
NSSO	National Sample Survey Organization
NSV	No Scalpel Vasectomy
NTP	National TB Programme
NYK	Nehru Yuva Kendra
OPV	Oral Polio Vaccine
PCPNDT Act	Pre-Conception and Pre-Natal Diagnostic Techniques Act
PFI	Population Foundation of India
PHC	Primary Health Centre
PPP	Public–Private Partnership
PRI	Panchayati Raj Institution
QoC	Quality of Care
RCH	Reproductive and Child Health
RMP	Rural Medical Practitioner
RNTCP	Revised National TB Control Programme
RTI	Reproductive Tract Infection
SDI	Social Development Index
SRS	Sample Registration System
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TB	Tuberculosis
TBA	Trained Birth Attendant
TFR	Total Fertility Rate
TT	Tetanus Toxoid
UIP	Universal Immunization Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Map 1.1 : Position of Bihar in India, 2001

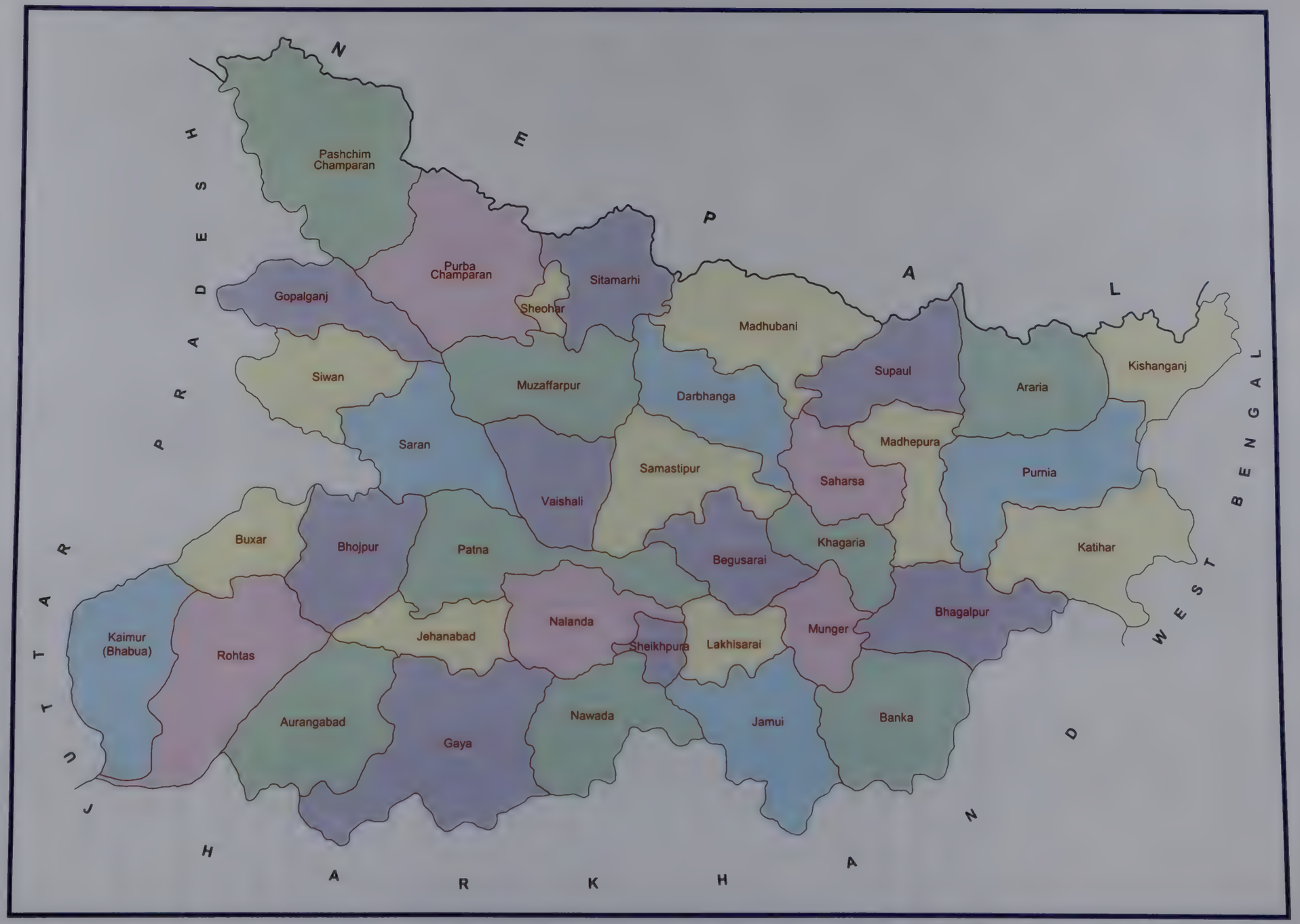
1
Introduction

The health status of its population reflects the socio-economic development of a state. Health status is shaped by a variety of factors — level of income and standard of living, housing, sanitation, water supply, education, employment, health consciousness and personal hygiene, and the coverage, availability, accessibility, acceptability and affordability of health services. The poor health status of states is a product of inadequate nutrition, lack of protected water supply, and overcrowded and insanitary housing conditions. These conditions are conducive to deficiency diseases, airborne diseases, faecally related and waterborne diseases, which dominate the morbidity and mortality pattern in less developed regions.

The relationship between health and poverty or health and development is complex and multifaceted. Poverty in its various dimensions could be a manifestation as well as a determinant of an individual's health. In its most basic form — as a state of food deprivation and nutritional inadequacy — poverty has a direct bearing on the morbidity and longevity of people. The other aspects of deprivation, such as lack of access to critical amenities including safe water, sanitation, non-polluting domestic fuels, connectivity of life support services and, most importantly, to education and general awareness, contribute to reinforcing ill health and morbidity, even leading to higher mortality levels. High child mortality levels on account of supervening infections, particularly diarrhoea and respiratory infections, are fairly widespread among people deprived of these basic amenities of life. These commonly seen childhood infections often exacerbate malnourishment. Undernourishment in children in turn reinforces the consequences of such infections.

By any index to measure socio-economic development the state of Bihar lags far below the national average and remains well behind other states. Some of these parameters of backwardness are per hectare productivity in agriculture, industrial output, dependence of people on the secondary and tertiary economic sectors, employment scenario, per capita income, and efforts in social modernization.

The root cause of poor health status in the state of Bihar is poverty (both income and human poverty) and social deprivation, low literacy (especially female literacy) and structural inequalities in terms of class, caste and sex. The state has the lowest per capita net domestic product among all the Indian states. As much as 32.5% of the population of the state lives below the poverty line (as per the 61st Round NSSO survey 2004-05), which is the second-highest rate after Orissa (39.9%). The state also has the lowest literacy rate of 47.0% and also the lowest female literacy rate of 33.1% among Indian states and Union territories, as revealed by the 2001 census. It also has the lowest ratio of girls in schools.



Map 1.2 : Bihar Administrative Divisions, 2001

The poor socio-economic status of the state of Bihar is in ironic contrast to its illustrious history. In ancient times it was the Magadh kingdom. Patliputra (modern Patna) was home to great monarchs like Chandragupta Maurya and Ashoka, who ruled over the Indian subcontinent. The word Bihar derives from Viharas, the Sanskrit word for Buddhist monasteries. The region gave birth to great religious leaders such as Lord Buddha, Lord Mahavira and Guru Govind Singh. It was witness to the Satyagraha movement of Mahatma Gandhi in Champaran. The state gave the nation its first President Dr Rajendra Prasad and national leaders such as Jayaprakash Narayan.

The modern state of Bihar, which came into existence in 1956, is located between 21°58′ to 27°31′ N latitude and 83°19′ to 88°17′ E longitude. It is bounded by Nepal on the north, West Bengal on the east, Uttar Pradesh in the west and Jharkhand on the south. The state has two distinct physiographic regions, viz. Sub-Himalayan area (North Bihar plains) and Gangetic plains (South Bihar plains), marked by the river Ganges which flows from west to east to join the Bay of Bengal. In November 2000 the state of Jharkhand was carved out of the state of Bihar by transfer of 13 districts to the new state. The remaining 29 districts have been reorganized into 38 districts. Table 1.1 presents details of the reorganization of districts.

Table 1.1. Reorganization of Districts in Bihar

Original District	New Districts after Reorganization
Bhojpur	Buxar
Gaya	Jehanabad
Jehanabad	Arwal
Munger	Lakhisarai, Sheikpura, Khagaria
Purnia	Araria, Kishanganj
Rohtas	Kaimur (Bhabua)
Saharsa	Supaul, Madhepura
Sitamarhi	Sheohar

Administratively, Bihar now has 9 divisions, 101 subdivisions and 533 community development blocks. There are 130 towns, including 125 statutory towns and 5 census towns, and 45,098 villages, out of which 39,015 are inhabited. There are 9032 gram panchayats, 7 municipal corporations, 42 municipalities, 3 nagar panchayats, and 853 police stations. The households number 13,744,130, of which 12,407,132 are rural and 1,336,998 are urban.

Bihar has a land area of 94,163 sq km, which is 2.86% of the land area of India (3,287,240 sq km). The state's rural land area is 92,358.40 sq km (98.08%) and urban land area is 1804.60 sq km (1.92%). Total irrigated land is 4807,000 hectares (1999-2000). The Ganges and its tributaries are the major source of water for the state. Other major rivers include Gandak, Ghagra, Kosi and Baghmati. The agricultural economy of the state is characterized predominantly by cash crops such as cotton, hemp, jute, oilseeds and tobacco. Maize, potato, rice and wheat are the other crops. Litchis, mangoes, bananas and jackfruit are the main fruits.

Bihar at a Glance

Area (sq kms)	94,163
Revenue Divisions	9
Districts	38
Sub-Divisions	101
Community Development Blocks	533
Towns	130
Villages	45,098
Inhabited Villages	39,015
Gram Panchayats	9032
Municipal Corporations	7
Municipalities	42
Nagar Panchayats	73
Police Stations	853
Population Total (2001)	82,998,509
Males	43,243,795
Females	39,754,714
Rural (percent)	89.5
Urban (percent)	10.5
Scheduled Castes (percent)	15.7
Scheduled Tribes (percent)	0.9
Decadal Growth Rate (percent) 1991-2001	28.6
Annual Exponential Growth Rate 1991-2001 (percent)	2.5
Density of Population (per sq km), 2001	881
Overall Sex-Ratio, 2001	919
Sex-Ratio (0-6 years), 2001	942
Total Literacy (percent)	47.0
Female Literacy	33.6
Total Work Participation Rate	33.7
Female Work Participation RatePeople living below Poverty Line (percent)	18.832.5
Per Capita Income (in Rupees)	6719
Human Development Index (HDI)Value	0.27
Human Development Index (HDI)Rank	15
Social Development Index (SDI) Urban Value	27.10
Social Development Index (SDI) Urban Rank	19
Social Development Index (SDI) Rural Value	16.13
Social Development Index (SDI) Rural Rank	20
Gender Disparity Index (GDI)Value	0.47
Gender Disparity Index (GDI)Rank	32
Infant Mortality Rate (IMR), SRS-2005	61
Crude Birth Rate (CBR), SRS-2005	30.4
Crude Death Rate (CDR), SRS-2005	8.1
Total Fertility Rate (TFR), NFHS-III	4
Life Expectancy at Birth, 2000	60.8
Maternal Mortality Ratio, SRS 2001- 2003	371
Community Health Centres (CHCs)	70
Primary Health Centres (PHCs)	1641
Sub Centres	8858

2

Demographic and Socio-economic Scenario

According to the 2001 census, the population of the state of Bihar is 82,998,509 persons, consisting of 43,243,795 males and 39,754,714 females. The state accounts for 8.07% of the country's population (1,028,737,436). Currently (2007), India's population is estimated at 112 crore while that of Bihar is estimated at 9.2 crore. The population of the state is predominantly rural, with 89.5% of the population (74,316,709 persons) residing in rural areas. According to the 2001 census, 273,836 persons were living in institutional households, against 170,412 persons in 1991. Further, 42,298 persons were houseless in the 2001 census, against 35,355 houseless persons in the 1991 census.

In 1991, with a population of 64,530,554, the state ranked fifth in the country in terms of population. In the 2001 census it ranked third, after Uttar Pradesh and Maharashtra. The state along with Uttar Pradesh, Maharashtra, West Bengal, Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Rajasthan and Karnataka constitutes almost 50% of the population of India. Table 2.1 and Figures 2.1 and 2.2 present details.

Table 2.1. Population Growth in Bihar Compared to that of India, Census,1901–2001

Year	Bihar		India		Population Proportion of Bihar in India
	Population	Decadal growth rate	Population	Decadal growth rate	
1901	27,311,865	—	238,396,327	—	11.46
1911	28,314,281	1.52	252,093,390	5.75	11.23
1921	28,126,675	–0.97	251,321,213	–0.31	11.19
1931	31,347,108	9.74	278,977,238	11	11.24
1941	35,170,840	12.22	318,660,580	14.22	11.04
1951	38,782,271	10.58	361,088,090	13.31	10.74
1961	46,447,457	19.79	436,234,771	21.64	10.65
1971	56,353,369	20.91	548,159,652	24.8	10.28
1981	69,914,734	24.16	683,329,097	24.66	10.23
1991	86,374,465	23.38	846,421,039	23.86	10.20
2001	82,998,509	28.62	1,028,737,436	21.54	8.07

Figure 2.1. Absolute increase in the population of Bihar, Census 1901–2001

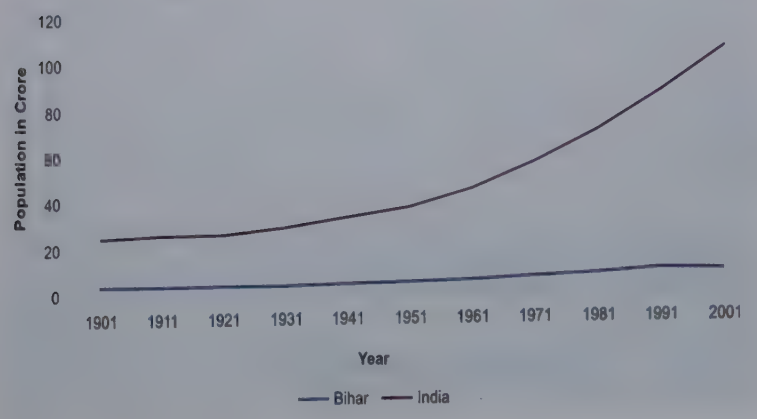
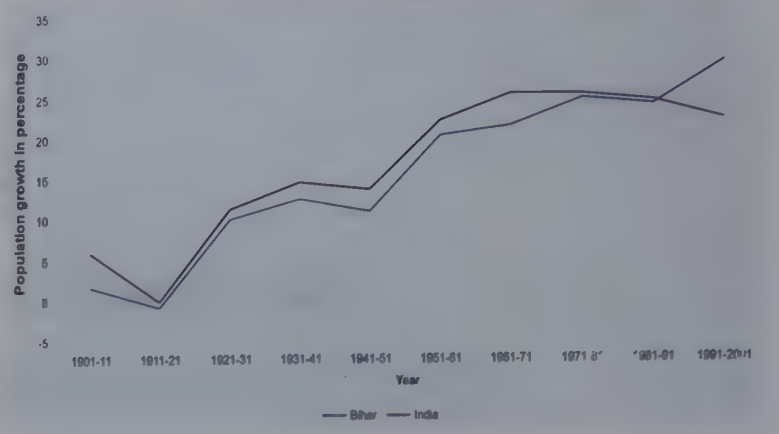


Figure 2.2. Decadal growth rate of Bihar compared with that of India, Census 1901-2001



Decadal Growth

During the decade 1991–2001, Bihar was the only state where the growth rate increased from 23.38 to 28.62, which is higher than the national average of 21.54 whereas all other states had a drop in decadal growth rate. Annual average exponential growth rate, which was 2.10 during 1981–91, has also increased to 2.50 during 1991–2001.

Population Density

The state has a population density of 881 persons per sq km as compared to 325 persons per sq km at the national level. In 1991 the corresponding figures were 685 and 267. Carving out of the state of Jharkhand has increased the population density of the state, bringing its rank in the country in this respect to the 7th place in 2001 from the 8th rank in 1991 and comes only after Delhi, Chandigarh, Pondicherry, Lakshadweep, Daman and Diu and West Bengal. The density of the population of the state is 4811 in urban areas as compared to 805 of rural areas. Table 2.2 and Figure 2.3 present details.

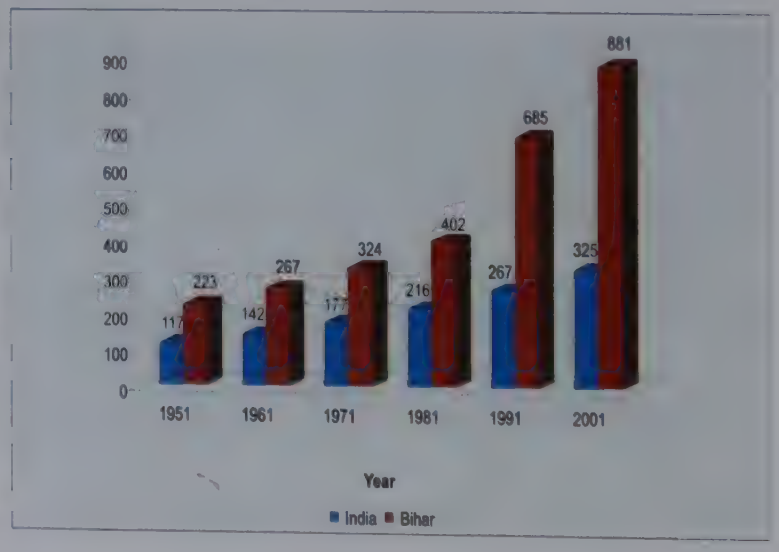
Table 2.2. Population Density (per sq km) in Bihar Compared with that of India, 1951–2001

Year	Bihar	India
1951	223	117
1961	267	142
1971	324	177
1981	402	216
1991	685	267
2001	881	325

Note: Figures for Bihar till 2001 include the present Jharkhand state.

Source: Census of India 2001, Registrar General of India, New Delhi.

Figure 2.3. Population density, Bihar and India, Census 1951–2001



Sex Ratio

The sex ratio, i.e. number of females per thousand males in the state was favourable to females till 1961 except in 1931, when it declined to 995. After 1961 the sex ratio in the state has been unfavourable to females. The sex ratio of the state since 1901 had always remained higher than that for the country as a whole till the 1981 census. However, the sex ratio of 907 of Bihar in 1991 was much below the sex ratio of 927 at the national level. There has, however, been some improvement in the 2001 census in this regard where the sex ratio of Bihar is 919 as compared to 933 at the national level for India. There has been a 12 point increase in sex ratio for the state. The state ranked 22nd in 2001 as compared to 25th rank in 1991 (see Table 2.3).

Table 2.3. Change in Sex Ratio in Bihar and India, Census 1901–2001

Year	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001
India	972	964	955	950	945	946	941	930	934	927	933
Variance		–8	–9	–5	–5	+1	–5	–11	+4	–7	+6
Bihar	1061	1051	1020	995	1002	1000	1005	957	948	907	919
Variance		–10	–31	–25	+7	–2	+5	–48	–9	–41	+12

The child sex ratio (CSR) for Bihar is 942 as compared to 927 for India in 2001. The corresponding figures in 1991 were 953 and 945. The state ranks 20th in CSR in 2001 as compared to 21st rank in 1991 (see Table 2.4 and Figures 2.4 and 2.5). The percentage of women who desire the next child to be a son in Bihar is 55.5% (India 38.1%); the percentage of husbands who desire the next child to be a son is also high at 45.2% (India 35.6%).

Table 2.4. Change in Child Sex Ratio in Bihar and India, 1951–2001

Year	Bihar	Variance	India	Variance
1971	964	–12	945	–17
1981	962	–2	927	–18
1991	964	–24	953	–28
2001	981	+17	942	–11

Source: Census of India 2001, Registrar General of India, New Delhi.

Figure 2.4. Child sex ratio in Bihar, 1991

Figure 2.5. Child sex ratio in Bihar, 2001

Age Distribution

The high fertility in the decades 1961–2001 is reflected in a young age structure for the country, with about 54% of the population being below the age of 24 years (Census 2001). Of this 35% are in the age group 10–14 years and 19% in the age group 15–24 years. In Bihar as well, the age pyramid reflects the growing base of youth population in the state. The population of the state is very young, with 42.0% below the age of 15 (see Table 2.5 and Figure 2.6). As per *World Youth, 2006 Data Sheet,* produced by the Population Research Bureau, there are about 33.1 crore young people (10 to 24 years) in India, representing a little less than one-third of the population.

Table 2.5. Age-wise Population Distribution (%) in Bihar, Census 2001

Age Group	Total	Male	Female	Rural	Urban
0-4	13.3	10.5	10.3	13.6	10.6
5-9	15.4	11.8	11.8	15.7	13.2
10-14	13.3	10.9	10.2	13.3	13.6
15-19	8.7	9.8	10.5	8.4	10.7
20-24	7.6	8.9	9.6	7.5	8.8
25-29	7.1	8.6	10.2	7.1	7.5
30-34	6.7	7.3	7.2	6.7	6.8
35-39	6.1	7.2	6.3	6.1	6.5
40-44	5.0	5.1	4.6	5.0	5.4
45-49	4.2	4.7	4.1	4.1	4.6
50-54	3.3	3.1	2.7	3.2	3.3
55-59	2.5	2.9	3.9	2.5	2.5
60-64	2.5	3.2	3.4	2.6	2.3
65-69	1.6	2.4	2.1	1.6	1.6
70-74	1.2	2.0	1.5	1.3	1.1
75-79	0.5	1.3	1.1	0.5	0.5
80+	0.9	0.4	0.4	0.9	0.9

Source: Census of India 2001, Registrar General of India, New Delhi.

Figure 2.6a. Age pyramid, Bihar, 2001

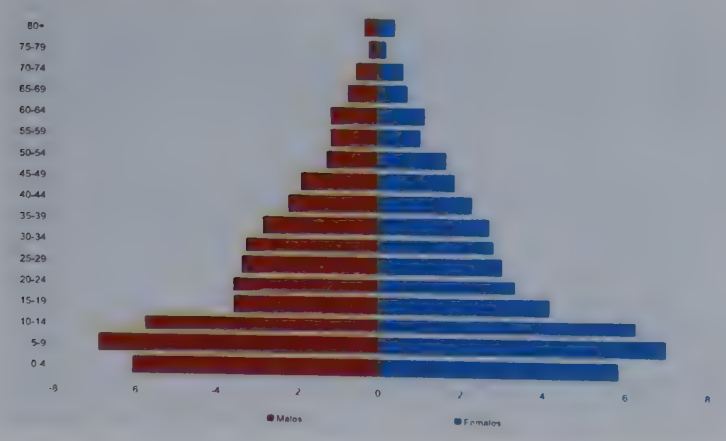
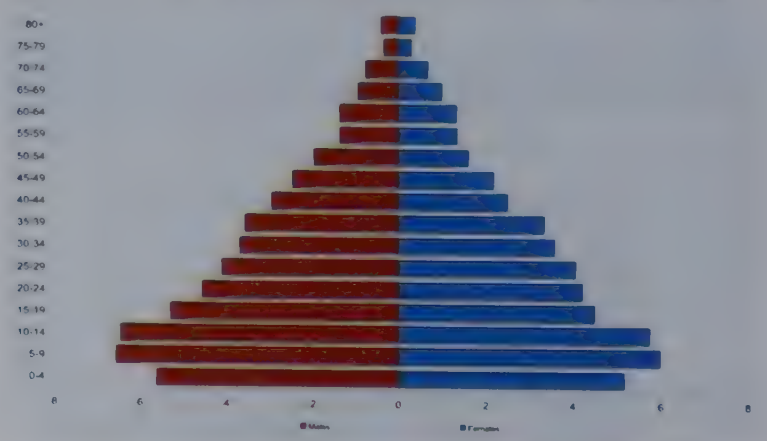


Figure 2.6b. Age pyramid, India, 2001



The term 'youth' encompasses a diverse set of young people — urban, schoolgoing, rural youth, married adolescents and out-of-school youth. In addition, one has to consider youth from marginalized sections of society who have faced historical discrimination. The United Nations Population Fund (UNFPA) defines adolescence as 10–19 years, with 10–14 years being early adolescence and 15–19 years as late adolescence. The National Youth Policy of India (2003) recognizes people in the age group of 13 to 35 years as youth.

Population Projection

The Registrar General of India's population projection in 2006 suggests that the population of Bihar would swell to approximately 113 crore, with a growth rate of 0.8 and TFR of 2 by the year 2026. The proportion of female population also shows an increase of 8%, with female population between 15–49 years being approximately 55%, whereas the proportion of 0–14 years would decline to 24.9%. It is estimated that population above 60 years of age would double from 6.3% in 2006 to 11% in 2026, marking a gradual ageing of the population (see Figure 2.7). Table 2.6 presents the quinquennial projected population characteristics of the state until 2026.

Figure 2.7. Projected population composition in Bihar by age groups, RGI, 2006

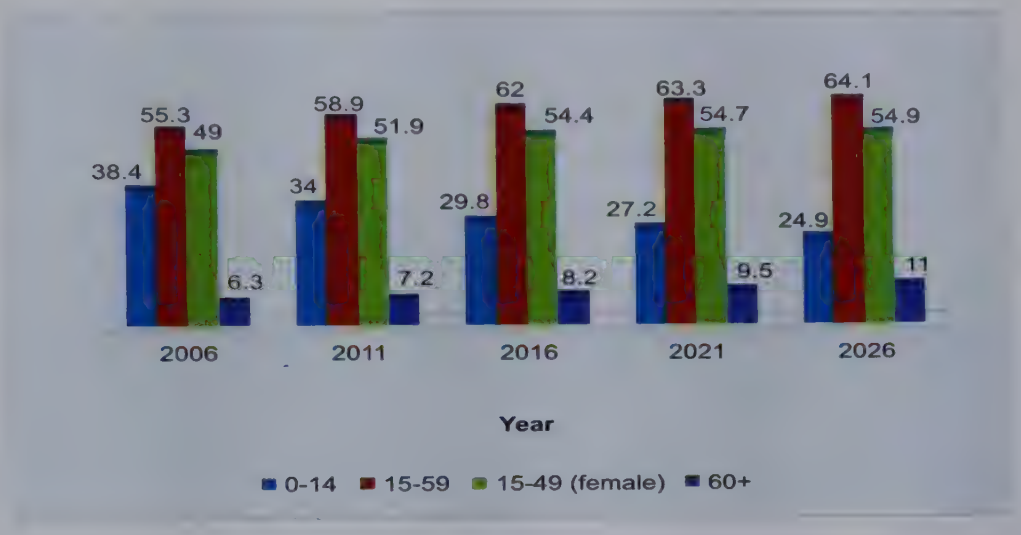


Table 2.6. Projected Population Characteristics of Bihar, 2006–2026

Indicator		2006	2011	2016	2021	2026
Population ('000)	Total	90752	97720	103908	109431	113947
	Male	47165	50640	53676	56341	58409
	Female	43586	47080	50231	53091	55437
Sex Ratio		924	930	936	942	949
Population Density (per sq km)		964	1038	1103	1162	1209
Population Growth Rate		1.5	1.2	1.0	0.8	
Population by Broad Age Groups ('000)	18 years and above	49447	57499	65984	73538	79591
	0–14	3461	33191	30944	29816	28347
	15–59	50151	57536	64438	69250	73007
	60+	5740	6993	8525	10365	12493
Proportion (%)	0–14	38.4	34.0	29.8	27.2	24.9
	15–59	55.3	58.9	62.0	63.3	64.1
	15–49 (female)	49.0	51.9	54.4	54.7	54.9
	60+	6.3	7.2	8.2	9.5	11.0
Median Age (years)		20.14	22.11	24.22	26.58	29.05
Dependency Ratio	Young (0–14)	695	577	480	431	388
	Old (60+)	114	122	132	150	171
Total (Young and old)		810	698	613	580	559

Source: Population Projection, 2001–2026, Registrar General of India, New Delhi 2006.

Religious Composition

The population of Hindus in Bihar is about 83% (6,90,76,919), compared to 17% of Muslims (1,37,22,048). The rest comprise Christians (53,137), Sikhs (20,780), Buddhists (18,818), Jains (16,085), those who did not state religion (37,817), and others (52,905).

The recently published Sachar Committee Report (2007) has drawn attention to the unequal opportunities for the Muslim population, who are systematically disadvantaged because they are discriminated against in public institutions such as in education and in health services. They are more likely to be poor and more likely to be denied access to income, assets and services.

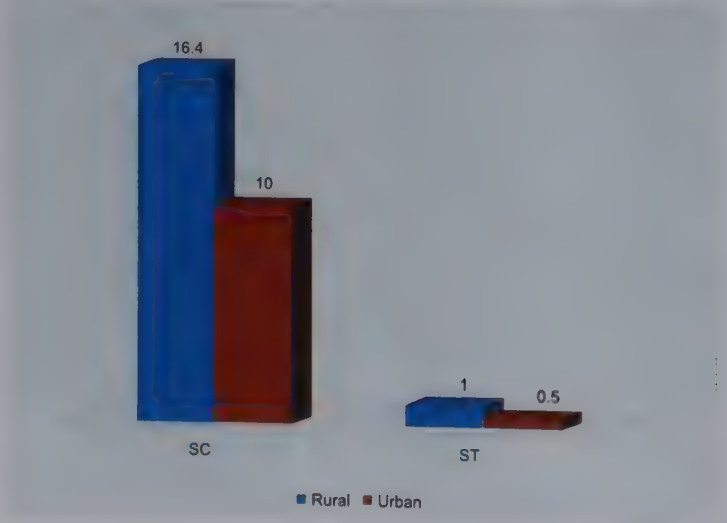
Scheduled Castes and Scheduled Tribes

The Scheduled Caste population of Bihar was 15.7% in 2001, as compared to 16.2% for India. The corresponding figures for 1991 were 15.5% and 16.5%. The Scheduled Tribe population was 0.9% in 2001, as compared to 8.2% for India in 2001 and 8.1% in 1991 (see Table 2.7 and Figure 2.8). The state ranked 16th in the Scheduled Caste population and 27th in the Scheduled Tribe population in 2001.

Table 2.7. Scheduled Caste and Scheduled Tribe Population of Bihar Census, 2001

	Total Population			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Scheduled Castes	13048608 (15.7%)	6784676 (52%)	6263932 (48%)	12178555 (16.4%)	6321221 (51.9%)	5857334 (48.1%)	870053 (10.0%)	463455 (53.3%)	406598 (46.7%)
Scheduled Tribes	758351 (0.9%)	393114 (51.8%)	365237 (48.2%)	717702 (1.0%)	371009 (51.7%)	346693 (48.3%)	40649 (0.5%)	22105 (54.4%)	18544 (45.6%)

Figure 2.8. Scheduled Caste and Scheduled Tribe population of Bihar, Census, 2001 (%)



Following are the notified Scheduled Castes and Scheduled Tribes in Bihar.

Scheduled Castes: Bantar, Bauri, Bhangi, Bhogta, Bhuiya, Bhumji, Chamar, Mochi, Chaupal, Dabgar, Dasadh, Dhangad, Dharhi, Dhobi, Dom, Ghasi, Halalkhor, Hari, Kanjar, Kurariar, Lalbegi, Mehtar, Musahar, Nat, Pan, Pasi, Rajwar, Sawasi, Turi.

Scheduled Tribes: Assure, Baiga, Banjara, Bathudi, Bedia, Bhumij, Binjhia, Birhor, Birjia, Chero, Chik Baraik, Gond, Gorait, Ho, Karmali, Kharia, Kharwar, Khond, Kisan, Kora, Korwa, Lohara, Mahli, Mal Paharia, Munda, Oraon, Pahariya, Santal, Sauria Paharia, Savar.

It needs to be noted that some of the population groups now belong to the state of Jharkhand.

Development and Social Exclusion

The greatest challenge that Bihar faces today is development. This relates to income, poverty, undernourishment, illiteracy and social exclusion based on caste and gender. Under the prevalence of such backward societal conditions and inequalities in Bihar between people in urban and rural, between rich and poor, between the educated and the illiterate and between those who posses some form of entitlements and those who do not, development has to be viewed not just in terms of economic prosperity but in terms of human, social and gender development.

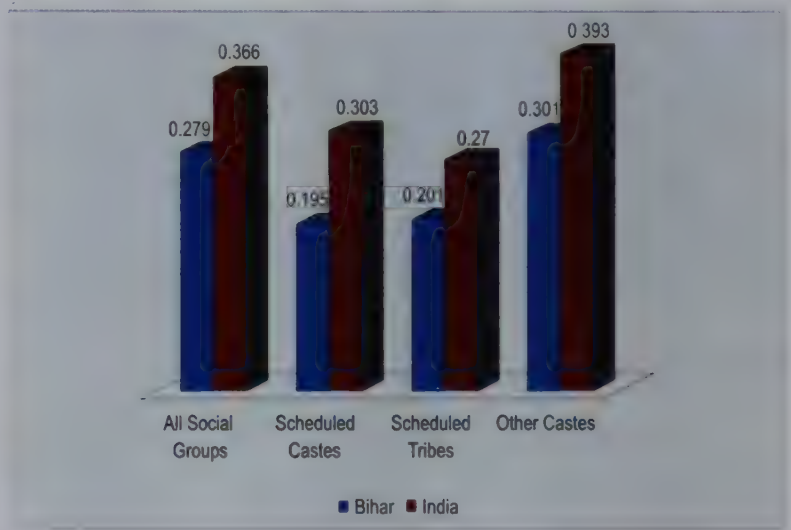
Human Development Index (HDI) is a composite index representing three dimensions of human development, namely, economic, health and education. The indicators are life expectancy, literacy rate and adjusted income. The combined HDI of Bihar is 0.367 as compared to 0.472 for India. The state ranks 15th in HDI. Table 2.8 and Figure 2.9 show HDI among marginalized groups in Bihar and India. The HDI among marginalized groups is a cause for concern as they are lagging behind on all fronts of development. Table 2.9 shows SDI by residence.

Table 2.8. HDI According to Social Groups for Bihar and India, 2006

	Bihar	India
All social groups	0.279	0.366
Scheduled Castes	0.195	0.303
Scheduled Tribes	0.201	0.270
Other Castes	0.301`	0.393

Source: Human Poverty and Socially Disadvantaged Groups in India Delhi, HDRC/UNDP India 2007.

Figure 2.9. HDI according to social groups for Bihar and India, 2006 HDRC/UNDP India 2007



Improvement in economic parameters such as gross domestic product (GDP), per capita income, etc. has been impressive in India but improvement in social indicators such as literacy, nutritional status of women and children, infant mortality rate, unemployment rate and incidence of poverty has been far from satisfactory. This is mainly due to the inadequacy of social infrastructure and lack of access to basic amenities, especially for the socially and economically marginalized sections of society.

Table 2.9. Social Development Index According to Residence for Bihar, 1991 and 2001

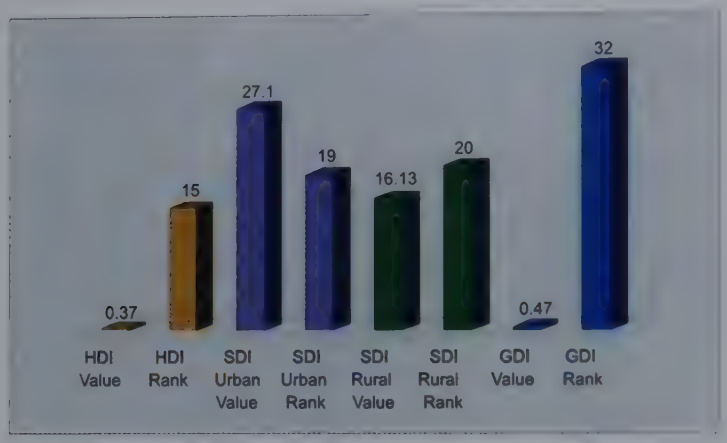
1991				2001			
Urban		Rural		Urban		Rural	
Value	Rank	Value	Rank	Value	Rank	Value	Rank
22.45	20	16.03	20	27.10	19	16.13	20

Source: Social Development Index, Council for Social Development, New Delhi, 2006.

In 2006 the Council for Social Development brought out a report on India's Social Development. Social Development Index is a composite index of six major dimensions of social development, namely demographic parameters, health situation, educational attainments, availability of basic amenities, incidence of unemployment and poverty and extent of social deprivation as of 1991 and 2001.

Gender Disparity Index (GDI) is estimated as proportion of female attainments to that of males for a common set of variables (*National Human Development Report*, March 2001). The variables used to capture economic attainments are worker population ratio, which is different from the variable used to capture economic attainment in the HDI. GDI value is 0.469 for Bihar, the lowest in the country, the all-India figure being 0.676. Figure 2.10 presents the development indicators for the state in terms of HDI, SDI and GDI.

Figure 2.10. Development Indicators, Bihar, 2001



Social exclusion describes a process by which certain groups are systematically disadvantaged because they are discriminated against on the basis of their ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, HIV status, migrant status or where they live. Mainly women and marginalized groups who are discriminated against often end up excluded from society, economy and political participation.

Literacy

The number of literates in Bihar in 2001 was 3,16,75,607. Literate males outnumber females 2 to 1 (see Table 2.10 and Figure 2.11). Bihar ranks lowest in literacy rate in the country, with literacy rate of 47.0% as compared to 64.8% for India (2001 census). The corresponding figures for 1991 were 37.5% and 52.2%.

Table 2.10. Literacy Rate in Bihar, 1951–2001

Year	Total	Male	Female
1951	13.49	22.68	4.22
1961	21.95	35.85	8.11
1971	23.17	35.86	9.86
1981	32.32	47.11	16.61
1991	37.49	51.37	21.99
2001	47.0	60.32	33.57

Source: Census of India, Registrar General of India, New Delhi.

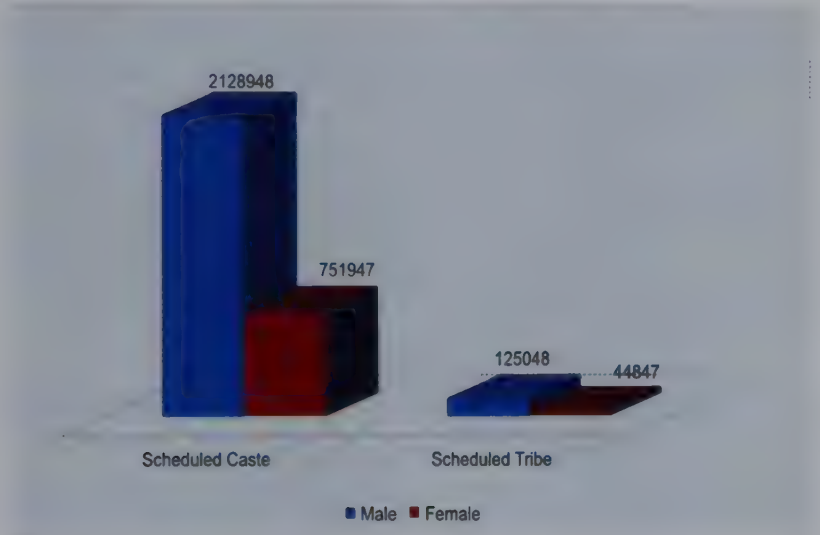
Figure 2.11. Literacy rate in Bihar, Census 1951–2001

Male literacy in India during the 2001 census was 75.3% and female literacy was 53.7%. The corresponding figures for Bihar were 60.3% and 33.6%. According to the Census of 2001, literacy rate among the Scheduled Castes was 28.5% and among the Scheduled Tribes, 28.2%. Literacy rates of these segments of population in the 1991 census were 18.4% and 18.95 respectively at the state level. Table 2.11 provides details. Figure 2.12 illustrates the scenario graphically.

Table 2.11. Literacy Rates for Scheduled Castes and Scheduled Tribes, Bihar, Census 2001

	Total			Male			Female		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Overall	31109577	25876919	5232658	20644376	17513010	3131366	10465201	8363909	2101292
	(47.0%)	(43.9%)	(71.9%)	(59.7%)	(57.1%)	(79.9%)	(33.1%)	(29.6%)	(62.6%)
Scheduled Caste	2880895	2536205	344690	2128948	1900047	228901	751947	636158	115789
Scheduled Tribe	169895	147420	22475	125048	111086	13962	44847	36334	8513

Figure 2.12. Literacy rates for Scheduled Castes and Scheduled Tribes, Bihar, Census 2001



According to the NSSO 55th round, the net primary enrolment for Bihar in 1999-2000 was 52 compared to 77 for India. Women's enrolment (34%) is considerably lower than that of men, with an enrolment gap of 14%. Bihar is the only state where primary enrolment has fallen between 1993-94 and 1999-2000 by 2%.

Occupational Status

Work Participation. According to the 2001 census, work participation rate in Bihar was 33.7% as compared to 30.6% in 1991. The corresponding all-India figures were 39.1% and 37.5%. The state has improved its rank in work participation to 30th place in 2001 as compared to 33rd place in 1991.

Male work participation rate during the 2001 census for total population, Scheduled Castes and Scheduled Tribes were 47.4%, 49.2% and 52.9%, respectively; in the 1991 census the corresponding figures were 47.6%, 50.4% and 53.6%. Thus, work participation rate declined in 2001 in all the male categories of population. During 2001 special efforts were made to cover female contribution in the economy in paid as well as unpaid work in family farm, collection of tendu leaves, bidi rolling, rearing of goats/sheep, rice dehusking, etc. Special training modules and wider publicity were undertaken to capture female work participation, especially in those areas where it showed inordinately low rates in the 1991 census. As a result, work participation rate among females increased appreciably from 11.8% in 1991 to 18.8% in 2001. Among the

Scheduled Castes female work participation rate increased from 23.3% in the 1991 census to 29.5% in 2001. Similarly, among the Scheduled Tribes the percentage of female workers rose from 31% to 36.9%.

Main Workers. During 2001 the percentage of main workers to total workers in respect of total population, Scheduled Castes and Scheduled Tribes has been recorded as 75.3%, 71% and 68.7%, respectively. The corresponding figures for the 1991 census were 95.2%, 95.4% and 92.8%, respectively. One reason for this decline is attributed to the fact that during the 2001 census special emphasis was placed on netting of marginal workers, leading to major gains in the category marginal workers and consequent decline in the proportion of main workers across the country. In main work participation the state was ranked 8th in 1991 and 23rd in 2001.

Marginal Workers. According to the 2001 census, the percentage of marginal workers to total workers was 24.7% against 4.8% recorded in 1991. Further, 29% among the Scheduled Castes and 31.45% among the Scheduled Tribe workers were marginal workers in 2001. The corresponding figures in the 1991 census were 4.6% and 7.2%, respectively. In marginal workers the state ranked 27th in 1991 and 12th in 2001. In view of the high incidence of leasing-in of land among the small and marginalized farmers and social groups, tenurial arrangements do have a significant impact on the livelihood of the poor. Efforts to provide legal protection to tenants (1963) through tenancy and land reforms have not met with much success, with the result that majority of tenancy contracts continue to exploit the poor.

Cultivators. The proportion of cultivators to total workers in Bihar decreased from 41.1% in 1991 to 32.2% in 2001. The proportion of cultivators among Scheduled Castes was 8.7% while that of Scheduled Tribes was 23.9%. This is a decline from 12.1% and 31.2% respectively in these categories in the 1991 census.

The proportion of agricultural labour to total workers increased from 43.7% in 1991 to 48.0% in 2001. Bihar has the highest number of agricultural labour in India, with more than 75% of overall workers being either cultivators or agricultural labour. Further, 75.4% among the Scheduled Caste workers and 60.9% among the Scheduled Tribe workers are engaged in agricultural labour, a slight decline from the corresponding figures of 79.2% and 61.0% in 1991. Total number of household industry workers in Bihar was 1.5% in 1991 and 3.9% in 2001.

Land Ownership. As much as 75% of the rural poor in the state are landless or near landless. Land reforms have led to the acquisition of only 1.5% of cultivable land for distribution as compared to the requirement of 20% for redistribution.

Crop Yield. The state average agriculture yield is almost half of that of the potential yield in comparison to the yield at all-India levels. The gap is particularly large in the case of rice and maize; wheat yield shows a much lower gap (see Table 2.12). Currently, horticulture crops account for less than 5% of cropped area and show strong promise for growth in several districts. Litchi cultivation is one such success story.

Table 2.12. Crop Yield and Yield Gap in Bihar (kg per hectare)

	Rice	Maize	Wheat	Sugarcane	Litchi
Potential Yield	3026	4056	3052	62780	1850
Average Yield	1218	1844	1816	48856	1000
Gap	1818	2212	1236	13924	850
All-India yield	1994	1810	2703	70578	–

Source: Export Potential of Indian Agriculture 2000, New Delhi.

Livestock ownership. A majority of rural households own some livestock. The poor and socially disadvantaged household tends to own low quality livestock (goats rather than cows and buffaloes). The total value of livestock per household among the richest is almost six times that of the poor.

Employment. According to the Director General of Employment and Training, Ministry of Labour and Employment, Government of India, total employment in the organized sector in Bihar for the quarter ending 31 March 2002 was 1613.0 (in thousand), with 1360.10 in the public sector and 252.90 in the private sector. For the quarter ending 31 March 2003 total employment was 634.9, with 590.5 in the public sector and 44.4 in the private sector.

The NSSO data show that wage employment in agricultural labour accounted for nearly 40% of the rural work force of Bihar in 1999-2000 as compared to 42% in 1993-94. Agricultural labour and cultivation together accounted for around 80% of occupations in 1999-2000. Thus, there is very limited occupational opportunity outside the sector. The poor are far more likely to be agricultural wage workers or casual non-farm labourers, rather than cultivators or employed in a regular non-farm job. Over time, agricultural labour among the poorest has declined while casual non-farm labour and self-employed non-farm occupations have increased. Such a shift does not necessarily mean an improvement in occupational status. Casual non-farm labour is a last resort that households choose. It is the lowest paid, and is usually unstable. In urban areas, more than 40% of household heads were self-employed and 30% had regular employment in 1999-2000. Underemployment in rural Bihar is very high, leading to outmigration to other states.

Poverty

The State Specific Poverty Line for rural Bihar in 2004-05 was Rs 354.36 per capita per month; its urban equivalent was Rs 435.00 per capita per month, compared to all-India figures of Rs 356.30 and Rs 538.60, respectively. As per the latest NSSO 61st round based on Maximum Retail Price (MRP) consumption, 32.5% of the population in Bihar was below the poverty line in 2004-05 as compared to 21.87% of the population for India. The only state worse than Bihar in this respect is Orissa, with a 39.9% figure. People living below the poverty line in rural Bihar comprise 32.9% of the population as compared to 21.8% for rural India; the corresponding figures for urban areas are 28.9% and 21.7%, respectively. Per capita income in Bihar in 2005 was Rs 6719. Bihar has the lowest per capita Net State Domestic Product (Rs 5772) among the states.

The head count indices declined in Bihar by 6.9 percentage points between 1993-94 and 1999-2000. The decline was 7.5 percentage points for rural Bihar, which again points to the continuing rural–urban gap. While the reduction in the head count levels was similar to the national average

of 6.5 percentage points, both rural head count at 41% and urban head count at 24.7% were significantly higher than the national average (26.3% for rural and 21% for urban; see Table 2.13).

Table 2.13. Poverty Indices (% Change) for Bihar and India, 1993-94 to 1999-2000

	Headcount Index			Poverty Gap Index		
	Urban	Rural	Overall	Urban	Rural	Overall
Bihar	–7.5	–15.4	–15.0	–10.7	–20.6	–20.8
India	–32.6	–20.3	–22.3	–37.8	–25.7	–27.4

Source: India Development Report, 2004-05.

The status of women in Bihar is low in terms of income and poverty. Not surprisingly, the state is also far below the national average on key health indicators (see Table 2.14). For most dimensions of human development, the performance of the state during the 1990s fell well short of what is needed to achieve the Millennium Development Goals by 2015 (see Table 2.15).

Table 2.14. Selected Socio-economic Indicators of Bihar

		India	Bihar	Ranking among 16 Major States	Ranking Status
Socio-economic Indicator	Per capita income (Rs) 2005	12,416	6719	16	Lowest
	Persons Below Poverty Line % (NSSO, 2004-05)	21.8	32.5	15	2nd lowest
	Female Literacy Rate (%)	53.7	33.1	16	Lowest
	% of Girls in School (11-14 Yrs), NFHS-2 (1998-99)	67.0	53.0	16	Lowest
	Human Development Index (HDI)	57	47	16	Lowest
	Human Poverty Index (HPI)	39	52	16	Lowest
Health Indicator	TFR NFHS-3 (2005-06)	2.9	4.3	15	2nd lowest
	CPR	56.3	34.1	15	2nd lowest
	IMR	58	61	11	6th highest
	Safe Delivery (%)	47.6	29.5	14	3rd lowest
	Anaemic Children 6–35 months NFHS-3 (2005-06) (%)	79.2	87.6	14	3rd lowest
	Children Fully Immunized (%)	20.18	32.8	16	Lowest
	Maternal Mortality Rate	301	371	12	5th highest

Table 2.15. Selected Millennium Development Goals Indicators for Bihar

	MDG	Bihar 1993	Bihar 1999	India 1999
Eradicate extreme poverty and hunger	Poverty head count (%)	45.9	39.0	28.6
	Poverty gap	0.10	0.08	–
	Prevalence of child malnutrition/underweight children below 5 years (%)	62.6	54.4	47.0
Achieve universal primary education	Net primary enrolment ratio (%)	54	52	77
Promote gender equality	Literacy gap	0.44	0.56*	0.71
Reduce child mortality	Infant mortality rate (per 1000 live births)	89.2	72.9	67.6
	Child mortality rate (per 1000 live births)	127.5	105.1	94.9
	Immunization (measles) (% children below 12 months of age)	10.7	11.0	42.0
Improve maternal health	Maternal mortality ratio (per 1 lakh live births)		451	408
	Delivery by skilled birth attendant (%)	19	23.4	42.3
Combat HIV/AIDS, malaria and other diseases	Incidence of tuberculosis (per 1 lakh)	595	989	544
	Contraceptive prevalence rate (%)	23.1	24.5	48.2
Access to safe drinking water and sanitation	Access to improved water sources (%)	63	75.4	77.9
	Access to improved sanitation (%)	16.5	16.8	36.0

* Literacy gap figures for 2001 census.

Source: Bihar: Towards a Development Strategy, A World Bank Report, 2007.

3
Status of Health

I. Fertility

Before the Sample Registration System (SRS) was introduced in India by the Registrar General of India in the late 1960s, information on fertility levels and trends consisted mainly of indirect estimates prepared by various demographers using age and sex distribution from census data. Prior to the 1970s the only other source for such estimates was the National Sample Survey, which also was inadequate to provide dependable estimates on birth and fertility rates. This is a problem common to data sources on population trends. Diverse sources such as censuses, the SRS system, National Family Health Surveys, and Reproductive and Child Health Surveys are not always in agreement and it requires caution in interpreting demographic trends in India. Whenever new data emerge, updating the trend often requires reconsideration of the estimates from the past. Making sense out of multiple and sometimes contradictory indicators available from diverse sources shows up not only the vulnerability of data sources but of various forms of errors and biases.

The SRS has been providing data for estimating fertility measures, and is considered to be the most accurate and reliable. The fertility indicators used for analysis here are Crude Birth Rate (CBR), General Fertility Rate (GFR), Age Specific Fertility Rate (ASFR), Gross Reproduction Rate (GRR), and Total Fertility Rate (TFR).

Crude Birth Rate (CBR)

CBR is defined as the number of live births per 1000 population in a given year. CBR at all-India level declined from 33.9 in 1981 to 29.5 in 1991, a decline of about 10%. CBR for Bihar declined from 39.1 in 1981 to 30.7 in 1991, a decline of about 21%. The decline during 1991–2005 has been about 19% for India, from 29.4 to 23.8, but negligible for Bihar, at 0.97% from 30.7 to 30.4. CBR continues to be higher in rural areas (31.2) than in urban areas (23.8) in 2005. Table 3.1 and Figures 3.1 and 3.2 present details. The decline in CBR is partly attributable to increase in women's age at marriage and first pregnancy over the period.

Table 3.1. CBR for Bihar and India Compared, SRS 1981–2005

Year	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
1981	39.1	39.7	33.9	33.9	35.6	27.0
1982	37.3	37.8	32.5	33.8	35.3	27.6
1983	37.2	37.7	32.1	33.7	35.3	28.3
1984	39.9	40.6	33.6	33.9	35.3	29.4
1985	37.8	38.5	31.1	32.9	34.3	28.1
1986	36.5	37.2	29.8	32.6	34.2	27.1
1987	36.6	37.3	30.1	32.2	33.7	27.4
1988	37.3	38.1	30.4	31.5	33.1	26.3
1989	34.3	35.1	27.6	30.6	32.2	25.2
1990	32.9	33.8	24.6	30.2	31.7	24.7
1991	30.7	31.3	25.5	29.5	30.9	24.3
1992	32.3	33.1	25.0	29.2	30.9	23.1
1993	32.0	33.0	25.4	28.7	30.4	23.7
1994	32.5	33.5	24.3	28.7	30.5	23.1
1995	32.1	33.1	23.8	28.3	30.0	22.7
1996	32.1	33.1	23.6	27.5	29.3	21.6
1997	31.7	32.7	23.6	27.2	28.9	21.5
1998	31.1	32.1	23.1	26.5	28.0	21.1
1999	31.5	32.4	25.2	26.0	27.5	20.8
2000	31.9	32.8	25.6	25.8	27.6	20.7
2001	31.2	32.3	23.4	25.4	27.1	20.3
2002	30.9	31.8	23.5	25.0	26.6	20.0
2003	30.7	31.6	23.4	24.8	26.4	19.8
2004	30.2	31.0	23.1	24.1	25.9	19.0
2005	30.4	31.2	23.8	23.8	25.6	19.1

Figure 3.1. CBR for Bihar and India, SRS 1981–2005

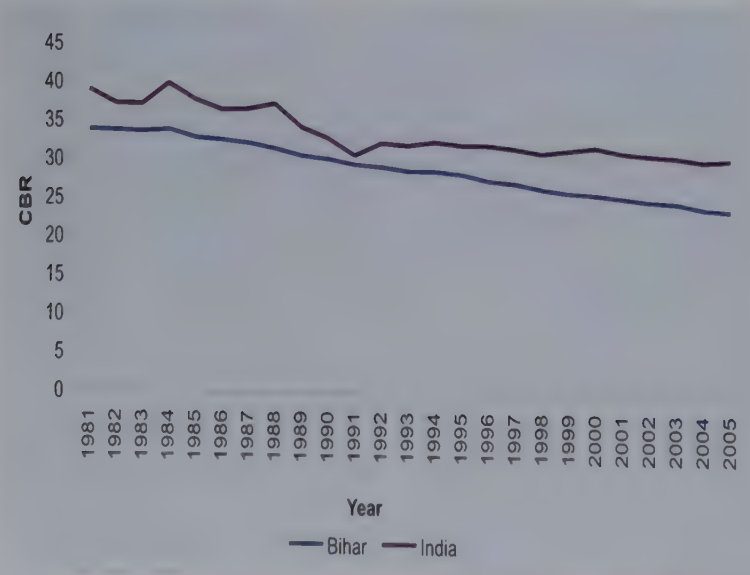
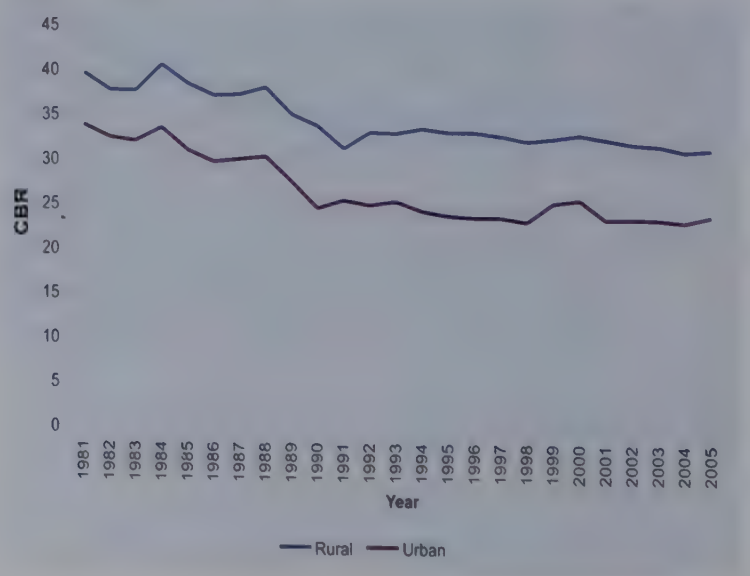


Figure 3.2. CBR for Bihar, Rural and Urban SRS 1981-2005



General Fertility Rate (GFR)

GFR, defined as the number of live births per thousand women in the reproductive age group (15–49) in a given year, is a more refined measure than CBR because it specifically relates to the reproductive age. GFR for all-India is 95.8, 70.9 in urban areas and 106.2 in rural areas. The corresponding figure for Bihar, 139.6, is the highest among the states. GFR for rural areas is again the highest among states at 144.6, and 101.0 in urban areas. Tables 3.2 and 3.3 and Figures 3.3 and 3.4 present details. GFR is high in northern India (Rajasthan, Haryana, Uttar Pradesh and Madhya Pradesh), while southern India (Kerala, Tamil Nadu, Karnataka, Maharashtra and Andhra Pradesh) exhibits values below the national average. This regional difference is attributed to the knowledge of fertility.

Table 3.2. GFR, Bihar and India, SRS 1981–2005

Year	1981	1986	1991	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Bihar	174.5	167.8	136.5	147.1	137.0	134.9	137.2	138.9	132.2	130.4	126.4	142.4	139.6
India	140.9	136.5	119.2	112.5	109.9	106.5	103.2	102.8	99.5	97.1	95.3	98.6	95.8

Figure 3.3. GFR, for Bihar and India, SRS 1996-2005

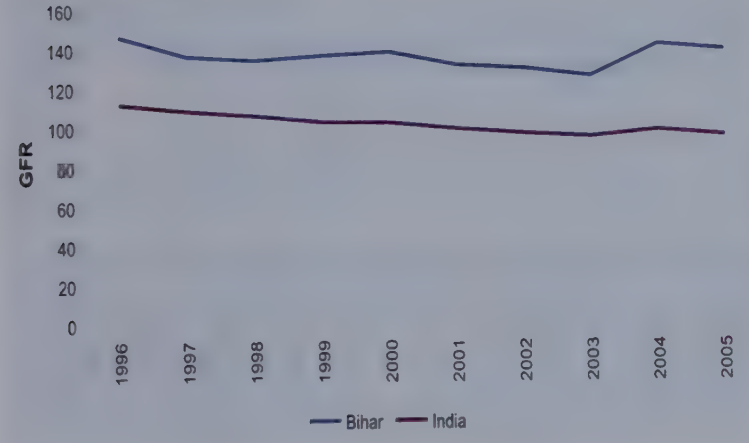
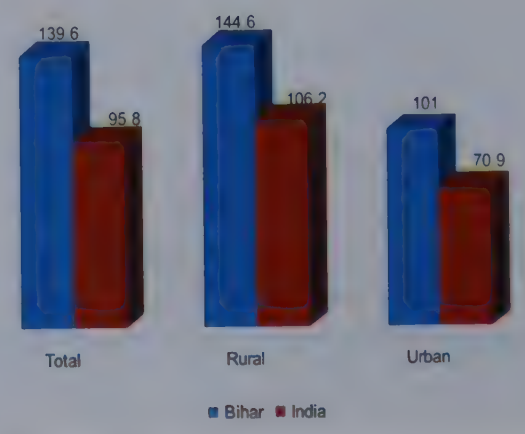


Figure 3.4. GFR, Bihar and India by residence, SRS 2005



Age Specific Fertility Rate (ASFR)

ASFR is fertility rates calculated for specific age groups to see the differences in fertility behaviour at different ages or for comparison over time. It is seen from Table 3.4 and Figure 3.5 that fertility peaks in the age group 20–24. In India fertility declines after the age of 30; in Bihar the decline occurs after 35. Table 3.5 compares data for ASFR for Bihar and India over the last 25 years. Figure 3.6 compares ASFR for rural and urban Bihar for 2005. The National Family Health Survey (NFHS) III has also estimated ASFR, which is low for all ages in urban areas of Bihar than rural areas. The ASFR for Bihar also peaks in the age group 20–24 (0.274) and gradually declines after the age 30–34 (0.106).

Table 3.4. ASFR Bihar and India, SRS 2005

Age Group	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
15–19	56.4	59.0	38.2	45.9	52.4	28.4
20–24	274.5	280.5	225.4	223.4	246.2	170.0
25–29	225.1	229.4	187.4	160.4	171.2	134.6
30–34	165.5	171.9	112.6	87.6	99.1	60.0
35–39	71.2	74.9	43.5	30.0	41.4	20.1
40–44	51.0	54.3	28.3	16.7	21.5	5.9
45–49	18.0	19.2	9.4	6.2	8.1	2.1

Figure 3.5. ASFR, Bihar and India, SRS 2005

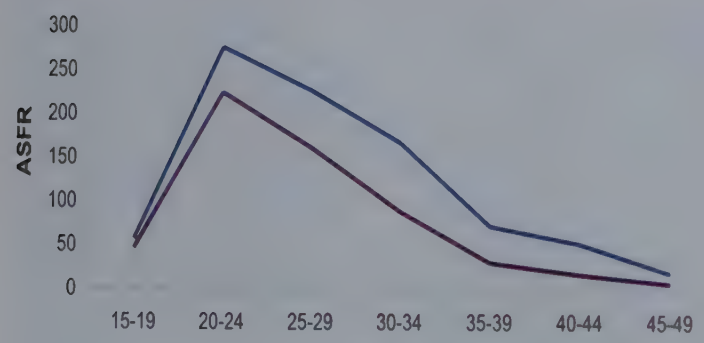


Figure 3.6. ASFR for rural and urban Bihar for SRS 2005

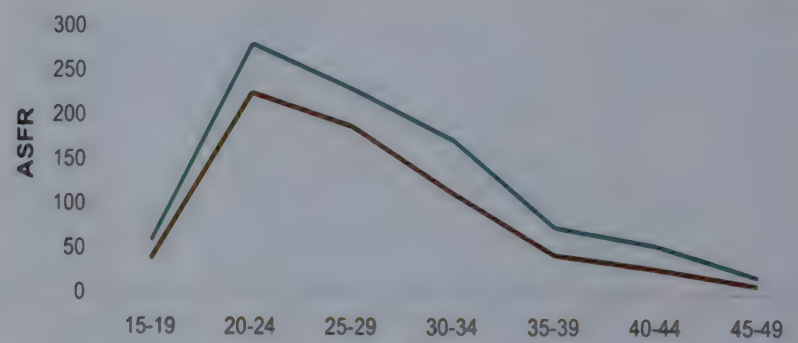


Table 3.5. ASFR for Bihar and India, 1981–2005

Age Group	1981		1986		1991		1996		2001		2005 (current)	
	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India
15–19	114.0	90.4	113.0	91.1	78.5	76.1	52.0	55.3	53.5	48.9	56.4	45.9
20–24	275.5	246.9	264.8	252.8	2308.0	234	229.9	229.1	244.6	215.9	274.5	223.4
25–29	277.4	232.1	249.7	216.4	203.9	191.3	253.2	188.1	233.3	177.3	225.1	160.4
30–34	214.0	167.7	184.0	139.2	165.1	117	171.6	112.4	180.9	98.5	165.5	87.6
35–39	145.0	102.5	127.0	78.6	116.1	66.8	113.0	56.6	104.3	49.9	71.2	35.0
40–44	73.1	44	64.3	37.9	59.9	30.6	53.7	28.3	54.6	21.2	51.0	16.7
45–49	33.2	19.6	34.9	14.9	26.5	12.1	18.3	10.2	15.3	7.3	18.0	6.2

Source: Sample Registration System, Registrar General of India, New Delhi.

Gross Reproduction Rate (GRR)

GRR measures the average number of female children a woman is expected to give birth to during her entire reproductive span conforming to ASFR for a given year if there is no mortality.

The estimated value for GRR in India in 2005 is 1.4 compared to 2.1 in Bihar, which is the highest among the states. Table 3.6 compares GRR data for Bihar and India for 1971–2005. Figure 3.7 illustrates the trend. Table 3.7 and Figure 3.8 provide the break-up by residence for 2005.

Table 3.6. GRR, Bihar and India, 1971–2005

Year	1971	1976	1981	1986	1991	1996	2000	2002	2003	2004	2005
Bihar	n.a.	n.a.	2.7	2.5	2.1	2.1	2.1	2.0	1.9	2.0	2.1
India	2.5	2.3	2.2	2.0	1.7	1.6	1.5	1.4	1.4	1.4	1.4

Source: Sample Registration System, Registrar General of India, New Delhi.

Fig. 3.7. GRR for Bihar and India, SRS 1981–2005

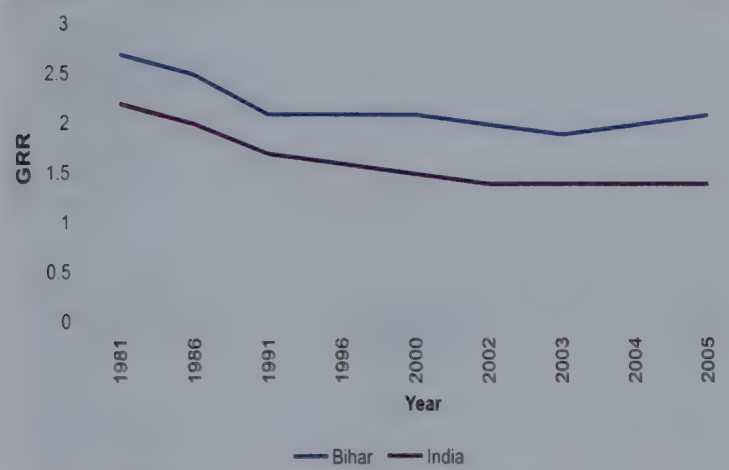
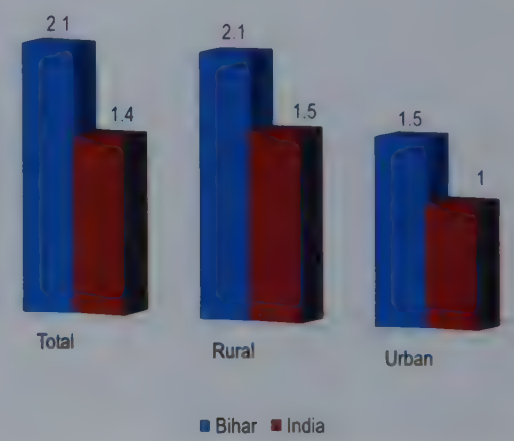


Figure 3.8. CBR for Bihar, Rural and Urban, SRS 1981–2005



Total Fertility Rate (TFR)

TFR indicates the average number of children expected to be born to a woman during her entire reproductive span, assuming that ASFR continues to be the same and there is no mortality. Table 3.8 compares TFR data for Bihar and India for 1981–2005. TFR for Bihar at 4.3 in 2005 is the highest among the states. Data from NFHS (Table 3.9) reflect that there is a clear trend of decline in TFR for India whereas for Bihar TFR declined to 3.7 in NFHS-2 and again increased to 4 in NFHS-3. Figure 3.9 illustrates the data of Table 3.9 graphically.

TFR is influenced by the social importance attached to marriage, active discrimination against women, and low economic value ascribed to women in a patriarchal society. This is further compounded by regional diversity of economy and social development and gender biases in kinship structure. Women in the South, and to some extent in the East, are better off and have greater autonomy. The Hindi-speaking core region (including Bihar) is characterized by high fertility due to a patriarchal value system, pronounced economic underdevelopment, and exclusion of women in education and development. Sex ratio, child mortality, and female work force have the most significant effect on fertility. This overlaps with other structural factors such as links between economics, culture, education, and female child survival. The link between high fertility and high female mortality in Bihar is statistically significant.

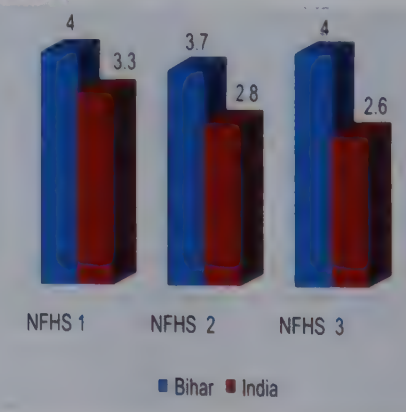
Table 3.8. TFR for Bihar and India, SRS 1981–2005

Year	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
1981	5.7	5.8	4.8	4.5	4.8	3.3
1982	5.6	5.7	4.7	4.5	4.9	3.4
1983	5.5	5.6	4.5	4.5	4.9	3.4
1984	5.9	6.0	4.9	4.5	4.8	3.5
1985	5.4	5.6	4.4	4.3	4.6	3.3
1986	5.2	5.3	4.2	4.2	4.5	3.1
1987	5.3	5.4	4.2	4.1	4.4	3.2
1988	5.4	5.5	4.3	4.0	4.3	3.1
1989	5.1	5.2	3.9	3.9	4.2	2.8
1990	4.8	4.9	3.4	3.8	4.1	2.8
1991	4.4	4.5	3.5	3.6	3.9	2.7
1992	4.6	4.8	3.4	3.6	3.9	2.6
1993	4.6	4.7	3.7	3.5	3.8	2.8
1994	4.6	4.8	3.5	3.5	3.8	2.7
1995	4.5	4.7	3.3	3.5	3.9	2.6
1996	4.5	4.6	3.2	3.4	3.7	2.4
1997	4.4	4.5	3.1	3.3	3.6	2.4
1998	4.3	4.5	3.1	3.2	3.5	2.4
1999	4.5	4.7	3.4	3.2	3.5	2.3
2000	4.4	4.7	3.4	3.2	3.5	2.3
2001	4.4	4.6	3.1	3.1	3.4	2.3
2002	4.3	4.5	3.1	3.0	3.3	2.2
2003	4.2	4.4	3.1	3	3.2	2.2
2004	4.3	4.4	3.2	2.9	3.3	2.1
2005	4.3	4.4	3.2	2.9	3.2	2.1

Table 3.9. TFR Bihar and India as per NFHS Data

	Bihar	India
NFHS-1 (1992-93)	4	3.39
NFHS-2 (1998-99)	3.74	2.85
NFHS-3 (2005-06)	4	2.68

Figure 3.9. TFR for Bihar and India as per NFHS data



II. Mortality

Life Expectancy

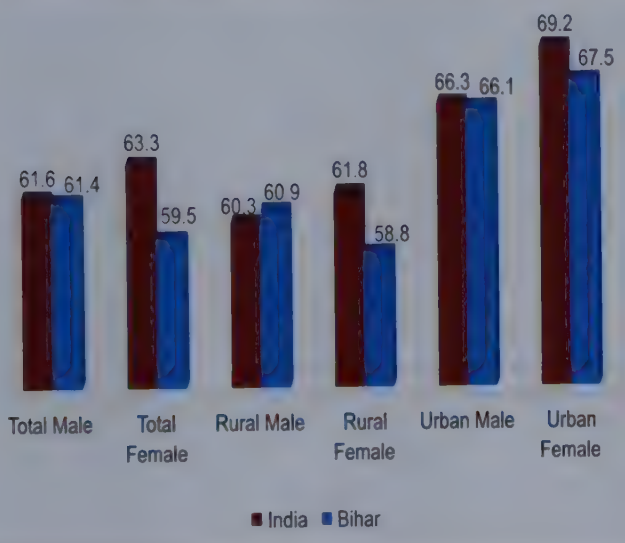
Life expectancy is the number of years a person would live, calculated on the basis of current death rates at any given point of time. It gives the survival rate rather than the health status of the population. It is seen from Table 3.10, which presents life expectancy figures for Bihar and India for 1990 and 2000, that as of mid-2000 life expectancy at birth for Bihar is 60.8 as compared to 62.5 for India. The state also shows a trend of shorter life span for women (59.5 years) than men (61.4 years), which is against the national trend of higher life expectancy for women. Figure 3.10 illustrates the data of Table 3.10 in terms of gender and residence for 2000.

Table 3.10. Life Expectancy Figures for Bihar and India, 1990 and 2000

	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India, mid-1990	58.7	58.6	59.0	57.4	57.2	57.4	64.1	62.8	65.5
Bihar, mid-1990	57.5	58.4	56.4	56.9	57.9	55.6	64.8	64.0	66.1
India, mid-2000	62.5	61.6	63.3	61.2	60.3	61.8	67.9	66.3	69.2
Bihar, mid-2000	60.8	61.4	59.5	59.9	60.9	58.8	66.8	66.1	67.5

Source: F. Ram, Chander Shekhar and S K Mohanty, Human Development: Strengthening District Level Vital Statistics in India, IIPS, 2005

Figure 3.10. Life expectancy in Bihar and India, 2000, by gender and residence



Source : Table 3.10

Crude Death Rate (CDR)

CDR is defined as the number of deaths per 1000 population in a given year. CDR at all-India level declined from 12.5 in 1981 to 9.8 in 1991, a fall of about 1.2%. CDR for Bihar declined from 13.9 in 1981 to 9.8 in 1991, a fall of about 1.4%. For India during 1991–2005 the decline has been about 0.7%, from 9.8 to 7.6; for Bihar the decline has been negligible, from 9.8 to 8.1. Table 3.11 compares data for India and Bihar over the period 1981–2005. Figure 3.11 illustrates the trend graphically. Figure 3.12 presents the trend for Bihar in terms of residence. It is seen from Figure 3.11 that the declining trend in CDR has been fairly steady, with a disturbance in 1992 and thereafter for about six years, and again a minor spurt in 2004. The declining trend in CDR has been attributed to better health infrastructure, control of communicable diseases, access to modern system of medicine, improved basic infrastructure such as safe drinking water and development activities in Bihar. The challenge to still reduce CDR is going to be control of mortality due to non-

communicable diseases such as cancer, diabetes and other degenerative disorders, along with the emerging new diseases and re-emergence of old diseases.

Table 3.11. CDR for Bihar and India Compared, SRS 1981–2005

Year	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
1981	13.9	14.7	8.0	12.5	13.7	7.8
1982	14.1	14.8	7.2	11.9	13.1	7.4
1983	13.0	13.5	7.4	11.9	13.1	7.9
1984	14.5	15.1	9.7	12.6	13.8	8.6
1985	15.0	15.6	9.0	11.8	13.0	7.8
1986	13.8	14.4	8.8	11.1	12.2	7.6
1987	13.1	13.6	8.0	10.9	12.0	7.4
1988	12.6	13.0	8.1	11.0	12.0	7.7
1989	12.1	2.5	7.9	10.3	11.1	7.2
1990	10.6	1.0	6.2	9.7	10.5	6.8
1991	9.8	10.2	6.2	9.8	10.6	7.1
1992	10.9	11.4	6.9	10.1	10.9	7.0
1993	10.9	11.4	5.0	9.3	10.6	5.8
1994	10.4	10.8	7.5	9.3	10.1	6.7
1995	10.5	10.9	6.9	9.0	9.8	6.6
1996	10.2	10.6	6.9	9.0	9.7	6.5
1997	10.0	10.4	6.8	8.9	9.6	6.5
1998	9.4	9.7	6.5	9.0	9.7	6.6
1999	8.9	9.2	7.1	8.7	9.4	6.3
2000	8.8	9.1	7.1	8.5	9.3	6.3
2001	8.2	8.5	6.3	8.4	9.1	6.3
2002	7.9	8.2	6.1	8.1	8.7	6.1
2003	7.9	8.1	6.0	8.0	8.7	6.0
2004	8.1	8.3	5.7	7.5	8.2	5.8
2005	8.1	8.3	6.6	7.6	8.1	6.0

Figure 3.11. CDR for Bihar and India, SRS 1981–2005

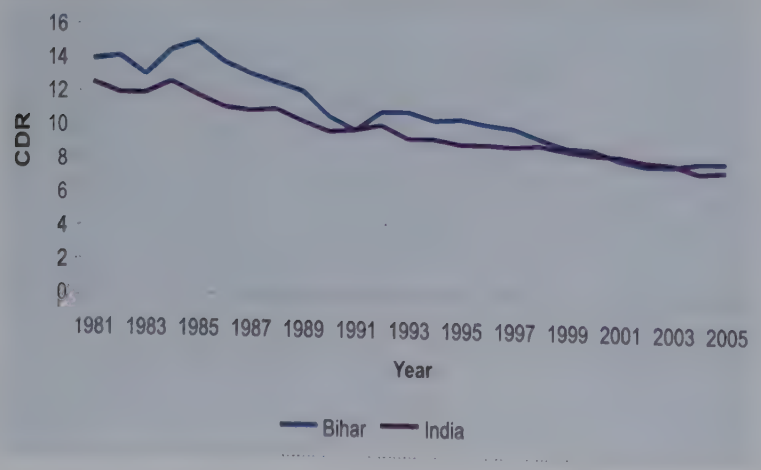
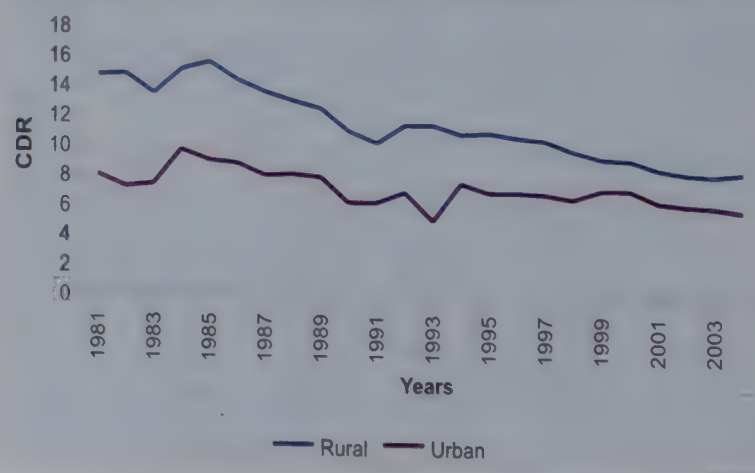


Figure 3.12. CDR for Bihar, SRS 1981–2005, by residence



Age Specific Death Rate (ASDR)

Age Specific Death Rate or Age Specific Mortality Rate (ASMR) is calculated for specific age groups in order to compare mortality at different ages or at the same age over time. Because mortality varies by sex and race, ASDR is often given separately for males and females and by residence. CDR is only a rough estimate of mortality; ASDR provides a better and clearer understanding of mortality statistics. Table 3.12 provides data for ASDR for Bihar and India by residence for 2005. Figure 3.13 (a) and (b) illustrates these data graphically. Table 3.13 presents data by broad age groups for 2005. Figure 3.14 illustrates the data graphically.

Table 3.12. ASDR for Bihar and India by Residence, SRS 2005

Age Group	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
Below 1	67.2	69.4	45.8	63.9	70.7	41.4
1–4	7.5	7.5	7.0	4.9	5.7	2.4
0–4	20.1	20.6	15.3	17.3	19.5	10.3
5–9	2.5	2.6	1.6	1.6	1.8	0.9
10–14	1.2	1.3	0.8	1.1	1.3	0.7
15–19	2.0	2.0	1.9	1.7	1.9	1.3
20–24	2.1	2.1	2.4	2.0	2.2	1.6
25–29	2.3	2.2	3.0	2.2	2.5	1.7
30–34	2.1	2.1	2.0	2.5	2.7	2.0
35–39	3.3	3.4	2.4	3.2	3.4	2.8
40–44	3.7	3.6	4.2	4.0	4.3	3.5
45–49	5.8	5.8	5.4	6.0	6.4	5.3
50–54	9.7	10.1	5.9	8.4	8.6	7.8
55–59	13.6	13.7	12.3	13.3	14.0	11.7
60–64	24.9	24.1	31.5	21.2	22.0	19.0
65–69	32.2	33.2	22.7	32.6	33.4	30.3
70–74	58.6	60.0	45.9	52.8	54.0	49.2
75–79	57.5	68.9	56.6	74.0	72.8	77.2
80–84	116.4	115.5	124.3	106.7	106.4	107.8
85+	153.0	152.7	156.3	169.3	166.7	176.9

Figure 3.13a. ASDR for Bihar and India, SRS 2005

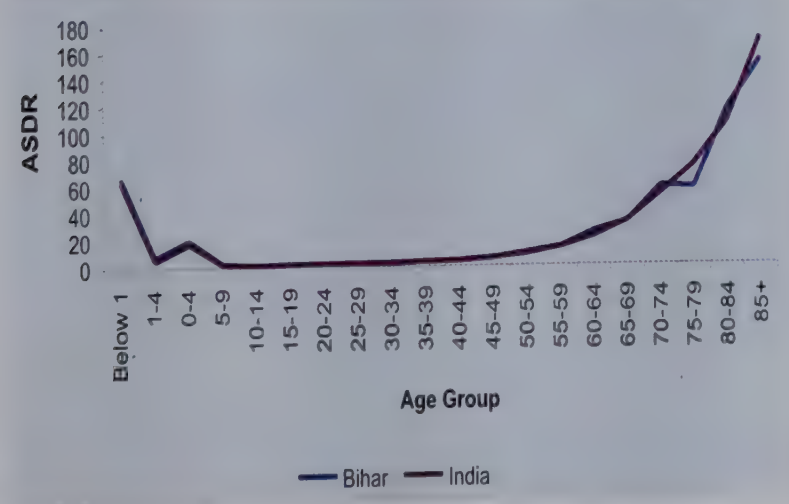


Figure 3.13b. ASDR for Bihar, SRS 2005, by residence

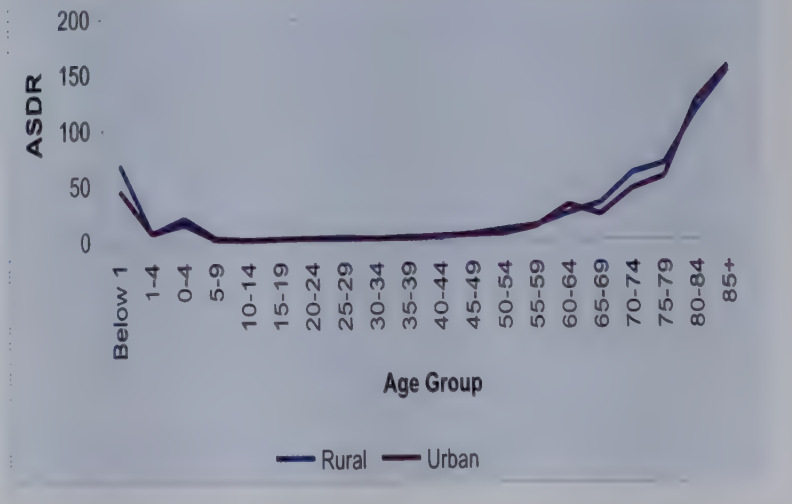
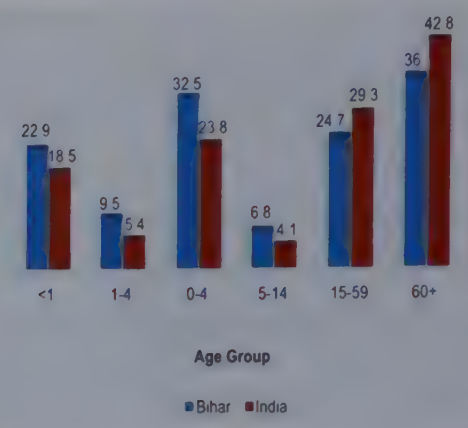


Table 3.13. Distribution of Deaths by Broad Age Groups, Bihar and India, SRS 2005

Age Group	Bihar	India
<1	22.9	18.5
1–4	9.5	5.4
0–4	32.5	23.8
5–14	6.8	4.1
15–59	24.7	29.3
60+	36.0	42.8

Figure 3.14. Distribution of deaths by broad age groups, Bihar and India, SRS 2005



Child Mortality

It is seen from Table 3.13 and Figure 3.14 that the record of the state in child mortality lags far below the national record, with 22.9% infant deaths (0–1 year) against the all-India figure of 18.5% and a figure of 9.5% for toddler deaths (1–4 years) against the all-India figure of 5.4%. Table 3.14 and Figure 3.15 present figures for child mortality for Bihar and India for the decade 1995–2005. Table 3.15 and Figure 3.16 (a) and (b) present the trend in <5 year mortality by residence for the country as a whole and for Bihar. An important facet noted from the data is that mortality in this age bracket rose in Bihar in 2005 while the national trend has been of consistent decline. Major causes of child mortality are pneumonia, diarrhoea, measles and malnutrition.

Table 3.14. Child Mortality Rate, Bihar and India, SRS 1995–2005

Year	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
1995	28.3	28.9	21.2	24.2	26.5	15.0
1996	27.9	28.4	21.8	23.9	26.2	14.2
1997	25.9	27.0	15.1	23.1	25.6	13.1
1998	22.9	23.5	16.0	22.5	21.0	12.8
1999	20.6	21.2	15.4	20.4	22.9	11.7
2000	19.2	19.7	14.8	19.5	21.7	11.5
2001	19.4	19.8	15.6	19.3	21.5	11.2
2002	17.2	17.5	13.5	17.8	19.7	10.3
2003	17.4	17.9	13.0	17.4	19.2	10.2
2004	17	17	12	17	19	10
2005	20	21	15	17	19	10

Figure 3.15. Child mortality rate in Bihar and India, SRS 1995–2005

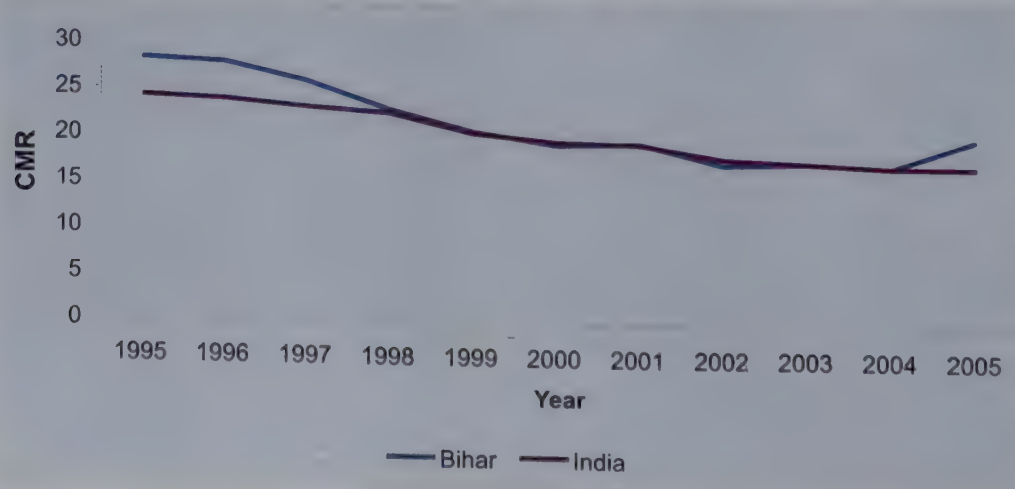
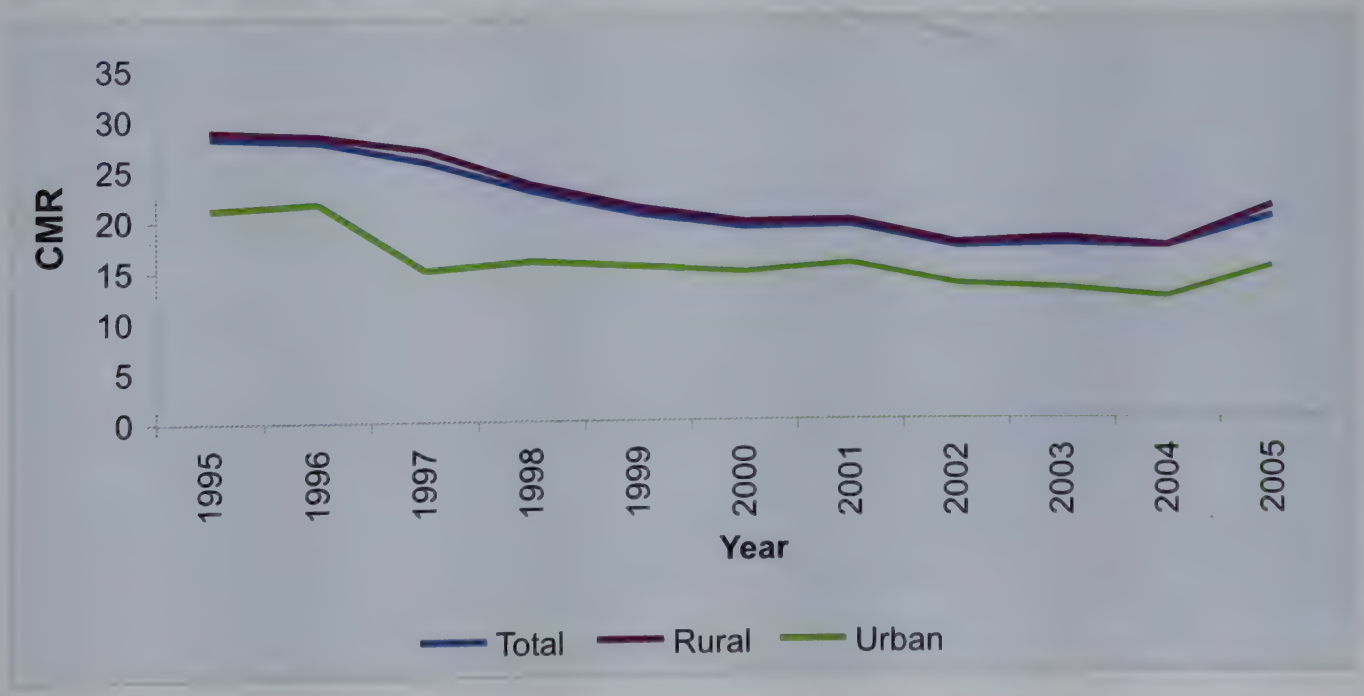


Table 3.15. Proportion of <5 Mortality to Total Deaths, Bihar and India, SRS 1995–2005

		% <5 mortality to total deaths by residence			<5 deaths rates by gender			< 5 death rates by residence					
								Rural			Urban		
		T	R	U	T	M	F	T	M	F	T	M	F
2005	India	23.8	26.1	15.6	17.3	16.4	18.2	19.5	18.6	20.2	10.3	9.5	11.1
	Bihar	32.5	33.0	26.7	20.1	19.1	21.1	20.6	19.7	21.5	15.3	13.7	17.1
2004	India	24.4	26.5	16.5	17.0	16.6	17.5	19.1	18.7	19.6	10.1	9.8	10.5
	Bihar	29.4	29.7	25.0	16.8	15.8	17.9	17.3	16.2	18.4	12.0	11.3	12.7
2003	India	23.9	25.9	15.5	17.4	16.4	18.5	19.2	18.3	20.2	10.2	8.8	11.8
	Bihar	31.1	31.7	24.7	17.4	16.8	18.1	17.9	17.1	18.8	13	14.3	11.5
2002	India	24.9	26.9	15.9	17.8	17	18.6	19.7	18.8	20.7	10.3	10.3	10.2
	Bihar	31.2	31.7	26	17.2	15.4	19.1	17.5	15.6	19.7	13.5	14.1	12.9
2001	India	26.5	28.7	16.9	19.3	18.3	20.5	21.5	20.3	22.8	11.2	10.6	11.8
	Bihar	34.4	34.9	29.5	19.4	17.7	21.3	19.8	18.1	21.7	15.6	14.5	16.9
2000	India	26.8	28.9	17.8	19.5	18.6	20.6	21.7	20.6	23	11.5	11.3	11.7
	Bihar	31.5	32.2	25.1	19.2	18.4	20.1	19.7	19.2	20.2	14.8	11.2	18.9
1999	India	27.7	29.7	18.7	20.4	19.8	21.1	22.9	21.9	23.9	11.7	12.2	11.2
	Bihar	32.7	33.4	26.3	20.6	18.9	22.5	21.2	19.5	23.1	15.4	13.8	17.2
1998	India	28.8	30.6	18.4	22.5	21	24.1	24.8	23.2	26.6	12.8	12	13.6
	Bihar	32.8	33.2	27.7	22.9	21.2	24.8	23.5	21.5	25.8	16	17.9	13.7
1997	India	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Bihar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1996	India	30.3	32.1	21.3	23.9	22.2	25.6	26.2	24.3	28.3	14.2	13.8	14.8
	Bihar	34.7	34.9	32.1	27.9	25	31.1	28.4	25.7	31.5	21.8	17.9	26.4
1995	India	31.3	33.1	22.5	24.2	23.2	25.3	26.5	25.2	27.8	15	14.8	15.2
	Bihar	35.2	35.4	32	28.3	26	30.8	28.9	26.6	31.5	21.1	19.2	23.2

Note : Data not available for 1997

Figure 3.16. Child mortality rate for Bihar, SRS 1995–2005, by residence



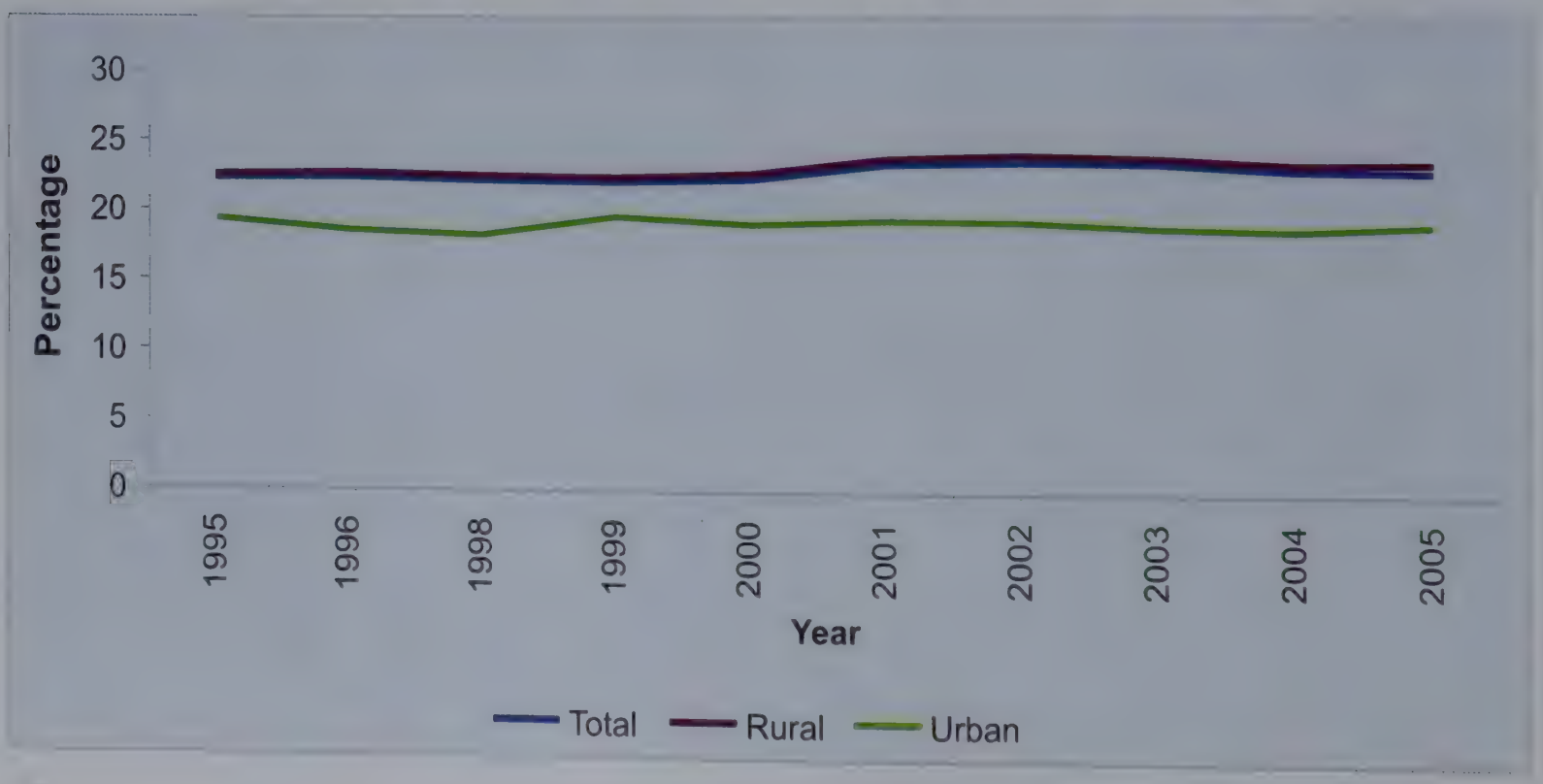
Infant Deaths

The state also has a high rate of infant deaths to total deaths. It is a mater of particular concern that over the past ten years (1995–2005) the proportion of infant deaths have risen, against the trend of decline at the national level. Within the state, the rate of infant deaths has been declining in urban areas, and the rural areas solely account for this trend of increase (see Table 3.16 and Figure 3.17).

Table 3.16. Infant Deaths as Percentage of Total Deaths in Bihar and India, SRS 1995–2005

Year	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
1995	22.3	22.5	19.4	23.2	24.6	16.6
1996	22.4	22.7	18.6	21.9	23.3	15.2
1997	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1998	22.2	22.5	18.3	21.0	22.4	14.3
1999	22.1	22.4	19.6	20.7	22.0	14.5
2000	22.3	22.7	19.1	20.5	22.0	14.3
2001	23.4	23.8	19.4	20.0	21.4	13.6
2002	23.6	24.1	19.3	19.6	21.2	13.0
2003	23.5	23.9	18.9	18.7	20.1	12.7
2004	23.0	23.4	18.7	18.7	20.2	13.1
2005	22.9	23.5	17.1	18.5	20.1	12.6

Figure 3.17. Infant deaths as percentage of total deaths by residence, SRS Bihar 1995–2005



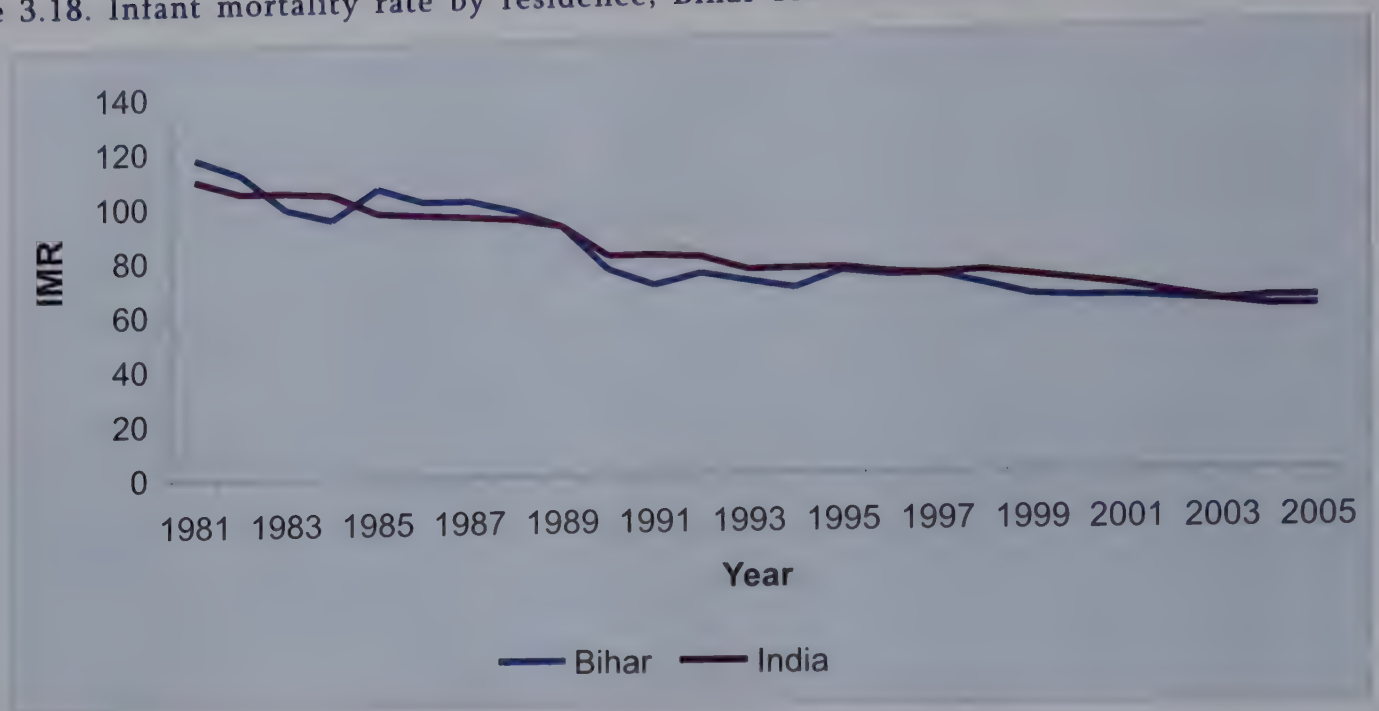
Infant Mortality Rate (IMR)

IMR, considered to be one of the most sensitive indicators of health and development, is defined as number of infant (under age one) deaths per thousand live births in a given year. Table 3.17 presents data for IMR for Bihar and India for 1981–2005. Figure 3.18 illustrates the trend for the state by residence. It is seen from Table 3.17 that IMR declined dramatically in the decade of 1981–91 by 49 percentage points, from 118 in 1981 to 69 in 1991. The decline in the decade of 1991–2001 has, however, been only 7 percentage points, from 69 to 62. In the period 2001–05 the figure fluctuated between 60 and 61.

Table 3.17. Infant Mortality Rate for Bihar and India by Residence, SRS 1981–2005

Year	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
1981	118	124	60	110	119	62
1982	112	116	60	105	114	65
1983	99	102	65	105	114	66
1984	95	97	79	104	113	66
1985	106	109	62	97	107	59
1986	101	104	68	96	105	62
1987	101	104	72	95	104	61
1988	97	99	70	94	102	62
1989	91	93	63	91	98	58
1990	75	77	46	80	86	50
1991	69	71	46	80	87	53
1992	73	74	49	79	85	53
1993	70	73	41	74	82	45
1994	67	68	61	74	80	52
1995	73	74	57	74	80	48
1996	71	73	54	72	77	46
1997	71	73	53	71	77	45
1998	67	68	51	72	77	45
1999	63	64	55	70	75	44
2000	62	63	53	68	74	44
2001	62	63	52	66	72	42
2002	61	62	50	63	69	40
2003	60	62	49	60	66	38
2004	61	63	47	58	64	40
2005	61	62	47	58	64	40

Figure 3.18. Infant mortality rate by residence, Bihar SRS 1981–2005



Disaggregated data by sex for IMR are available only for the decade 1995–2005 (see Table 3.18). It is seen from the table that IMR has declined in Bihar over the past ten years, more sharply in urban (17 points) than rural areas (10 points). Female IMR is higher in all categories, i.e. in total population, in urban area and rural area. Over the past ten years the gap in IMR between

Table 3.18. Infant Mortality Rates by Sex, Bihar and India, SRS 1995–2005

		Total			Rural			Urban		
		T	M	F	T	M	F	T	M	F
2005	India	58	56	61	64	62	66	40	37	43
	Bihar	61	60	62	62	61	63	47	45	50
2004	India	58	58	58	64	64	63	40	39	40
	Bihar	61	60	63	63	61	65	47	44	50
2003	India	60	57	64	66	63	69	38	33	34
	Bihar	60	59	62	62	59	65	49	59	37
2002	India	63	62	65	69	67	72	40	40	39
	Bihar	61	56	66	62	57	67	50	47	53
2001	India	66	64	68	72	70	74	42	41	44
	Bihar	62	57	68	63	57	69	52	49	56
2000	India	68	67	69	74	72	76	44	45	42
	Bihar	62	62	61	63	64	61	53	42	64
1999	India	70	70	71	75	75	75	44	47	40
	Bihar	63	63	62	64	64	63	55	53	58
1998	India	72	70	73	77	76	79	45	42	49
	Bihar	67	67	66	68	68	69	51	65	37
1997	India	71	70	72	77	76	79	45	46	44
	Bihar	71	72	71	73	73	73	53	61	45
1996	India	72	71	73	77	76	79	46	48	44
	Bihar	71	68	75	73	70	76	54	50	59
1995	India	74	73	76	80	78	82	48	49	47
	Bihar	73	75	71	74	76	72	57	60	54

rural females and urban females has increased. Table 3.19 presents data for average percentage change in the average of infant mortality between 1983–85 and 1993–95 and between 1993–95 and 2003–05.

Table 3.19. Percentage Change in IMR, Bihar and India, SRS

Period	Bihar			India		
	Total	Rural	Urban	Total	Rural	Urban
1993–95 to 2003–05	–18.4	–18.0	–21.3	–20.7	–19.8	–18.6
1983–85 to 1993–95	–20.2	–20.1	–11.2	–16.2	–15.4	–14.7

Neo-natal Mortality

To have an idea about the various components/elements which make up infant mortality, it is considered in terms of neo-natal mortality (up to 28 days) and post-neo-natal mortality (from 29 days through 11 months). Neo-natal mortality rate is further considered in terms of early neo-natal mortality rate (number of infant deaths of less than 7 days) and late neo-natal mortality rate (number of infant deaths of 7 days to less than 29 days). Peri-natal mortality rate is defined as the number of stillbirths, together with infant deaths of less than 7 days per 1000 live births and stillbirths in a given year. Peri-natal mortality is a sensitive indicator of standards of healthcare prior to and during pregnancy and childbirth as well as the effectiveness of social support to the vulnerable segments of population. Stillbirth rate is estimated as the ratio of the number of stillbirths per 1000 live births and stillbirths in a given year.

The main cause of infant deaths has been premature/low birth weight, acute respiratory tract infection and diarrhoea. A majority of infant deaths are preventable by simple interventions provided through the healthcare delivery system. The desired impact has not been felt since the health of a child is dependent on the level of nutrition, infection load in the community, and economic and environmental factors.

Disaggregated data collection for infant mortality commenced from 1997, including data for neo-natal mortality (early and late), post-neo-natal mortality, and peri-natal mortality. Table 3.20 presents disaggregated data for neo-natal mortality and peri-natal mortality for the state and for India for 1995–2005. The lower figures presented for the state as compared to the all-India figures for neo-natal mortality rate, neo-natal deaths to total infant deaths, early neo-natal mortality rate, early neo-natal deaths to total infant deaths, peri-natal mortality rate, and estimated stillbirth rate may be on account of underreporting in the state. The death rate of children below the age of five years by residence at the national level is estimated at 17.3 whereas the estimate for the state is 20.1. Post-natal mortality has declined more than peri-natal and neo-natal mortality because programme interventions have focused on immunization and the management of diarrhoea and acute respiratory infection, interventions that address the major post-neo-natal causes of death. Peri-natal mortality rate has shown only a marginal decline during the last decade. Identified risk factors that have direct impact on peri-natal deaths, as validated by ICMR, are the age of the mother, birth interval less than 24 months, previous stillbirth/pre-term birth, untrained birth attendants, low birth weight, and illiteracy. Figure 3.19 illustrates the trend of neo-natal mortality rate for the state by residence for the decade 1995–2005. Figure 3.20 presents the trend in the share of neo-natal deaths to infant deaths.

Table 3.20. Disaggregated Neo-natal Mortality and Peri-natal Mortality Rates, Bihar and India, SRS 1995–2005

		Neo-natal mortality			% share of neo-natal deaths to infant deaths			Early neo-natal mortality			% share early neo-natal deaths to infant deaths by residence			Peri-natal mortality rate by residence			Stillbirth rate by residence		
		T	R	U	T	R	U	T	R	U	T	R	U	T	R	U	T	R	U
2005	India	37	41	23	62.9	63.7	58.2	28	31	16	47.6	49.0	39.6	37	40	24	9	9	8
	Bihar	32	34	18	53.1	54.2	37.5	28	29	13	45.7	46.9	27.8	30	31	14	2	2	1
2004	India	37	41	24	64.1	64.9	59.7	26	29	14	44.0	45.3	36.5	35	39	23	10	10	8
	Bihar	33	34	20	53.8	54.6	42.6	23	23	13	36.7	37.3	27.9	24	25	14	1	1	1
2003	India	37	41	22	61.3	61.9	57.1	25	28	12	40.9	42.2	31.4	33	36	20	9	9	8
	Bihar	34	34	25	55.5	55.8	51.6	20	20	18	32.4	32.1	36.9	22	22	22	3	3	5
2002	India	40	44	24	62.4	62.8	60.0	27	29	16	42	42.1	41.3	35	38	23	9	9	7
	Bihar	37	38	32	61.1	61.0	63.3	25	26	14	41.3	42.4	27.3	29	31	16	4	5	2
2001	India	40	44	25	61.1	61.4	58.8	27	30	17	41.2	41.4	39.8	36	39	25	9	10	8
	Bihar	39	39	37	63.2	62.7	69.8	27	26	30	43	41.9	57.3	30	29	32	3	3	2
2000	India	44	49	27	65.5	65.8	63.0	32	35	19	47.4	47.8	44.7	40	44	26	8	9	7
	Bihar	42	44	29	68.3	69.6	54.6	31	32	20	51.1	51.1	38.3	34	35	22	3	3	2
1999	India	45	49	28	65.1	65.4	63.1	34	37	22	48.9	48.9	49.4	44	47	30	10	11	8
	Bihar	41	43	29	65.7	66.9	52.8	31	32	25	49.9	50.3	45.5	35	36	28	4	4	3
1998	India	45	49	27	63	63.3	60.1	34	37	22	47.4	47.4	48.1	42	45	29	9	9	8
	Bihar	44	45	29	65.8	66.4	57.1	33	34	23	49.6	49.9	44.2	37	38	24	4	4	2
1996	India	47	50	28	64.6	65.0	62.0	35	37	23	48.6	48.3	50.5	44	46	32	9	9	9
	Bihar	45	47	30	63.5	64.0	55.0	33	34	24	46.8	46.9	44.1	39	39	36	6	5	13
1994	India	48	52	29	64.9	65.5	60.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	45	48	31	9	9	9
	Bihar	44	45	34	60.8	60.8	60.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	39	39	37	7	6	14

Note: Data not available for 1997.

Figure 3.19. Neo-natal mortality rate by residence, Bihar, SRS 1995–2005

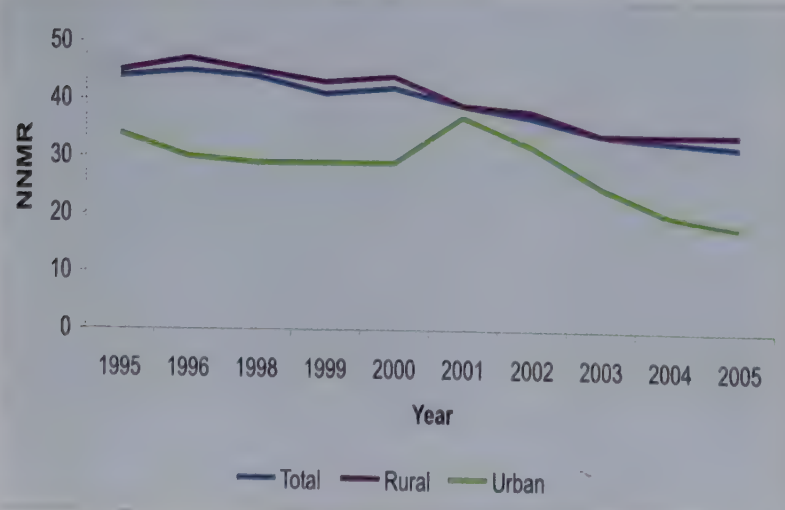
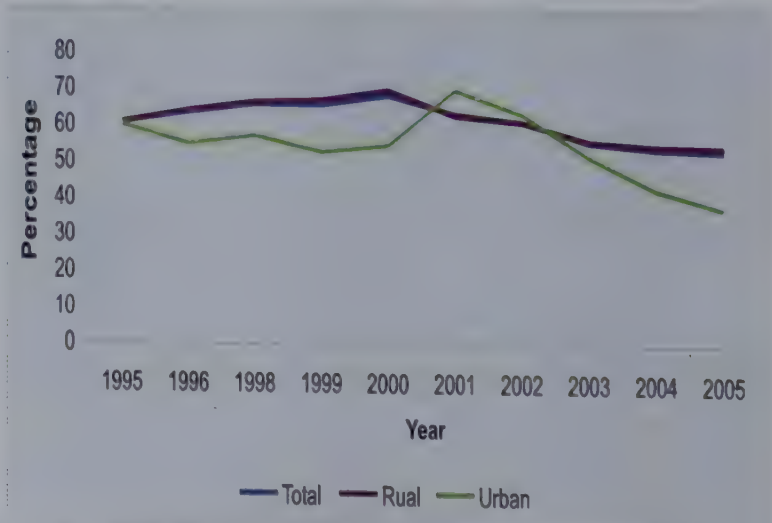


Figure 3.20. Share of neo-natal deaths to infant deaths by residence, Bihar, SRS 1995–2005

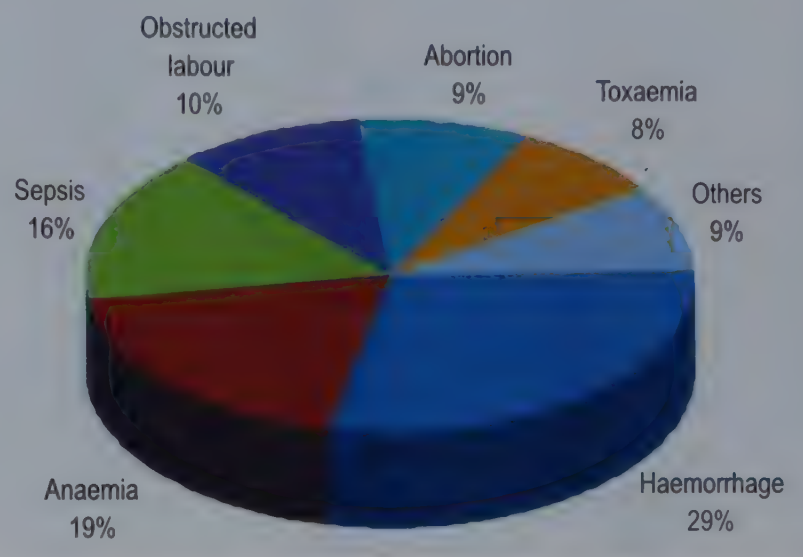


A leading cause of neo-natal mortality is low birth weight (LBW). About 80% of neo-natal deaths occur in LBW infants, which may be directly/indirectly attributed to maternal origin (mostly due to maternal malnutrition and lack of antenatal care of expectant mothers). Reduction in the occurrence of LBW babies and improvement in mean birth weight may be a key to improve neo-natal and infant survival in the state.

Maternal Mortality Ratio (MMR)

MMR, a sensitive indicator of overall socio-economic development, social status of women, and adequacy or inadequacy of healthcare system, is defined as the annual number of maternal deaths per 1,00,000 live births. Maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from any accidental or incidental causes. Maternal mortality rate (annual number of maternal deaths per 1,00,000 women of reproductive age) is another measure, which reflects both the risk of deaths among pregnant or recently pregnant women and the proportion of all women who become pregnant in a given year. MMR can be reduced either by making childbearing safer and/or by reducing the number of unwanted pregnancies. Figure 3.21 illustrates the main causes of maternal deaths in Bihar in 2003-04. MMR is a sensitive indicator of the status of women. Maternal mortality implies death of women in the prime period of their lives and has a major impact on their families.

Figure 3.21. Causes of maternal death, Bihar, SRS 2003-04



Maternal deaths are now rare in developed countries but unfortunately remain common events in developing countries. NFHS-1 (1992-93) was the first to provide a national estimate of 424 maternal deaths per 1,00,000 live births for the two-year period preceding the survey (IIPS, 1995). Although it surveyed nearly 90,000 households, the survey could not produce regional or state estimates because the sample was too small. Even at the national level, the sample inadequacies of the NFHS came into sharp focus when NFHS-2 (1998-99) produced a maternal mortality estimate of 540, but failed to confirm statistically the possible rise in the level of maternal mortality (IIPS and ORC Macro 2000).

According to the latest MMR figures published in *Maternal Mortality in India 1997–2003: Trends, Causes and Risk Factors, Sample Registration System* by the Registrar General of India (2007), MMR for Bihar for the period 2001–03 was 371 as compared to 301 for India. The state has the fifth-highest maternal mortality in the country, with a woman dying of childbirth and pregnancy-related complications every 12 hours. Maternal mortality should also be viewed as the tip of the iceberg of maternal morbidity. Table 3.21 and Figure 3.22 present the various estimates

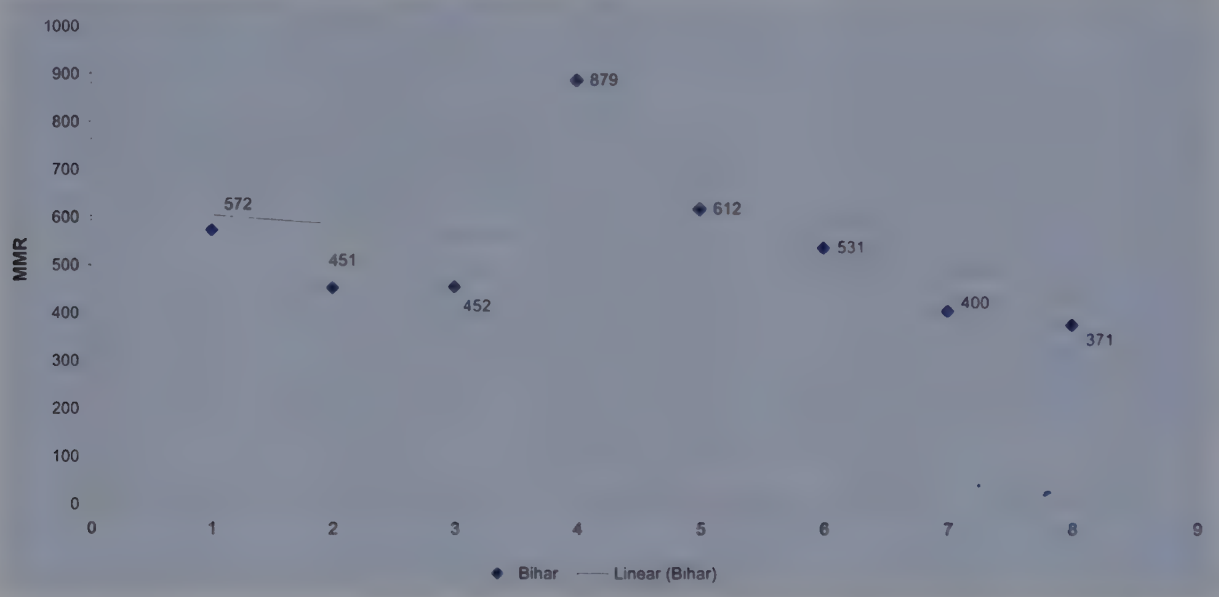
for MMR for Bihar and India. Though the estimates vary with different methodology used this does not change the stark fact that MMR in India is still very high. Even going by the most conservative estimate of 400 maternal deaths per one lakh live births means that more than one lakh women die every year in India due to causes related to pregnancy and childbirth. This translates into 300 Indian women dying every day during childbirth or because of pregnancy-related causes, roughly equivalent to one death every five minutes.

Table 3.21. Status of Maternal Mortality Ratio in Bihar and India, RGI 2007

	MMR-FOGSI 1992–94	Unicef 1995	SRS 1997	SRS 1998	NFHS-1 1992-93	NFHS-2 1998-99	Mari Bhatt 1982–86	Mari Bhatt 1998-99	1997-1998 Retrospective MMR Surveys	1999–2001 SRS Prospective Household Reports	2001–2003 Special Survey of Deaths using RHIME
Bihar	572	n.a.	451	452	n.a.	n.a.	879	612	531	400	371
India	1668	453	408	407	424	540	580	479	398	327	301

Note: Figures for Bihar include those for Jharkhand.

Figure 3.22. Various estimates of MMR for Bihar



About two-thirds of maternal deaths occur in the states of Bihar, Jharkhand, Orissa, Madhya Pradesh, Chhattisgarh, Rajasthan, Uttar Pradesh, Uttaranchal combined (the Empowered Action Group or EAG states) and in Assam. The lifetime risk of a woman dying of or in childbirth is 1.8 per cent in these states. The pregnancy pattern in Bihar with too early, too many and too close together enhances the risk of maternal mortality and complications. There has been substantial decline in MMR during 1997–2003, by 16 points per year. Maternal deaths can be reduced if all unwanted pregnancies are prevented, if childbearing is confined to the age group of 20–39, if third and higher order of births are reduced, if age of marriage and first child is delayed and a minimum period of three years between births can be ensured.

While fertility impacts strongly on mortality rates, infant and child mortality is also a major determinant of fertility rates. Poor households facing a high rate of infant and child mortality tend to have a large number of children. High fertility rates and childbearing patterns also have a bearing on age structure and high youth dependency ratio. High fertility rates also have a direct bearing on human capital formation, with low investment by parents on each child's education and health. Thus, high fertility has several adverse consequences for economic and social development.

Projections for Mortality and Fertility Indicators

In the document on population projections by the Registrar General of India, 2006, projections for mortality and fertility indicators were made. Table 3.22 provides projections for the next 25 years for the key mortality and fertility indicators for Bihar. The projections show that by 2025, CBR will reduce to 17.4, CDR to 6.7, and under-five mortality to 54.6. The state will reach replacement level fertility of 2.0 in 2025. Life expectancy for males will be 70.6 and for females will be higher at 71.4.

Table 3.22. Projected Mortality and Fertility Characteristics of Bihar, 2006–2025

Indicator	2006–10	2011–15	2016–20	2021–25
Crude birth rate	24.2	21.6	19.7	17.4
Crude death rate	6.7	6.6	6.6	6.7
Infant mortality rate	50.0	44.5	40.6	37.1
Under-5 mortality rate	73.5	65.4	59.7	54.6
Total fertility rate	3.3	2.7	2.3	2.0
Life expectancy of males	67.1	68.6	89.6	70.6
Life expectancy of females	66.7	68.7	70.2	71.4

Source: RGI, 2006. *Population Projection for India and States 2001 to 2026,* Report of the Technical Group on Population Projection constituted by the National Commission on Population 2006.

III. Morbidity

The distribution of the Burden of Diseases (BoD) between communicable and non-communicable diseases highlights failure to control communicable diseases. Communicable diseases account for 50.3% of the disease burden and constitute a major cause of premature death in India, killing over 2.5 million children below the age of five and an equal number of young adults every year. The proportion of total deaths on account of communicable diseases, maternal and peri-natal conditions and nutritional deficiencies continues to be unacceptably high at 42%.

Mortality figures fail to reveal morbidity status or disease profile of the people, which remains high due to communicable diseases. Communicable diseases such as kala-azar, malaria, tuberculosis, Japanese encephalitis and leprosy continue to be the major public health problems of the state.

Communicable Diseases

Kala-azar

The sand fly that transmits kala-azar (medical term Visceral leishmaniasis) multiplies in the cow dung villagers use to plaster their houses or as cow dung cakes for fuel. The flies survive on the sap in banana and bamboo groves and decomposed cow dung heaps. They make their home in the straw thatches of houses. The disease is characterized by fever, weight loss, swelling of the spleen and liver, and leads to cardiovascular complications resulting in death. The disease occurs in 62 countries, primarily in the developing world. Around 90% of cases around the world are found in India, Bangladesh, Nepal, Sudan and north-east Brazil.

Kala-azar has been occurring in India for more than a century and a half in various forms. As a collateral benefit of malaria eradication programme, Kala-zar prevalence was almost zero in 1965. Currently Bihar accounts for more than 76.3% of kala-azar cases and 90.3% of deaths in the country. In the 1977 epidemic of kala-azar about one lakh people died. The epidemic recurred in 1992 due to lack of surveillance and harvested a death toll of almost 2,50,000. The control measures put in place then were subsequently slackened from 1994 because DDT spray and surveillance were discontinued. In 2000 the numbers were low but started rising from 2003. Table 3.23 presents the figures for occurrence of kala-azar both in Bihar and India since 2001. It is a matter of concern that the incidence of the disease has increased in 2005 and further in 2006. According to the Annual Report of the Ministry of Health and Family Welfare, Government of India, 32 districts

Table 3.23. Kala-azar Occurrence in Bihar and India, 2001–06

Year (1)	Cases			Deaths		
	Bihar (2)	All India (3)	col. (2) as % of col. (3)(4)	Bihar (5)	All India (6)	col. (5) as % of col. (6)(7)
2001	10327	12239	84.38	204	213	95.77
2002	9684	12140	79.77	160	168	95.24
2003	13960	18214	76.64	187	210	89.05
2004	17324	24340	71.18	107	156	68.59
2005	21797	31217	69.82	124	157	78.98
2006 (P) Up to September	23001	30160	76.26	169	187	90.31

Source: Annual Report 2006-07, Ministry of Health and Family Welfare, Government of India.

of Bihar are kala-azar endemic. The district of Muzaffarpur has the highest number of cases, followed by Vaishali, Saharsa, Samastipur, Purnia and East Champaran. In early 2007 the state government set up a task force on kala-azar to suggest measures to eradicate the disease by 2010. The task force believes that continuous spraying of insecticides for at least five years in a phased manner and supervised administration of Amphotericin B could eliminate the disease. Experts say that poor living standards and unhygienic conditions make members of the Mushahar community in Bihar an easy prey to the disease.

Malaria

Malaria used to be the leading vector-borne disease of the country as well as Bihar at the time of independence. Initial efforts at malaria reduction brought down the caseload from an estimated 75 million to a record 1,00,000 cases in the 1960s. But subsequently, due to various financial, technical and logistical constraints the momentum was slackened. This led to resurgence of malaria in 1976, taking the caseload to 6.4 million. A modified plan of action helped reduce malaria cases by 1984. Efforts towards a further reduction were not successful due to vector and parasite resistance to conventional insecticides and drugs, respectively, in some high endemic areas, as well as continuing financial and management constraints. Malaria resurfaced in 1994, which also included increase in cases of Plasmodium falciparum malaria, the most dangerous strain of malaria, between 1995 and 1999. Some of the high endemic states are Madhya Pradesh, Chhattisgarh, Orissa, Rajasthan, Bihar and Andhra Pradesh. The national programme focuses on reduction of the reservoir of infection in humans by early detection and prompt radical treatment, reduction in vector population through vector control measures, anti-larval measures and enhancement of community-based action. This strategy is being implemented across the country along with the Enhanced Malaria Control Project (EMCP), which focuses on the high endemic districts in the high focus states. The malaria control programme today is known as National Vector Borne Disease Control Programme, which includes malaria, dengue, filarial, Japanese encephalitis and kala-azar. Table 3.24 presents the figures for the incidence of malaria in Bihar and India. Some of the high prevalence districts of malaria in the state are Gaya, Aurangabad, Rohtas, Munger and Jamui. A major concern is the resurgence of malaria in the flood-prone districts of the state every year.

Table 3.24. Malaria and Pf Cases in Bihar and India, 2001–06

Year	Malaria			Pf		
	Bihar	All India	col. (2) as % of col. (3)	Bihar	All India	col. (5) as % of col. (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2001	4108	2085484	0.2	1027	1005236	0.12
2002	3683	1841229	0.2	1705	897446	0.19
2003	2652	1869403	0.14	1080	857101	0.13
2004	1872	1915363	0.10	333	890152	0.04
2005	2733	1817093	0.15	427	805699	0.05
2006 (P) Up to September	948	727952	0.13	182	329686	0.05

Source: Annual Report 2006-07, Ministry of Health and Family Welfare, Government of India.

Tuberculosis (TB)

The Indian Council of Medical Research (ICMR) nation-wide survey of TB, conducted during 1955–59, covered 40% of the population and indicated an active prevalence level of 1.5%. These estimates continue to be used. The National TB Programme (NTP) was launched in 1962 and an impressive infrastructure of district TB centres, TB clinics, hospitals and beds was established. In spite of the huge amounts spent on NTP, the outcome is unsatisfactory due to poor diagnosis, inappropriate regimens and lack of patient evaluations or follow-up. The WHO extended technical support to pilot test the DOTS strategy. Based on these reviews and the results of controlled pilot projects, the Revised National TB Control Programme (RNTCP) was formulated with the DOTS strategy as its cornerstone. The DOTS strategy is based on five principles: case detection, ensuring adequate drug supply, administration of short course chemotherapy under direct supervision, systemic monitoring and accountability for every patient diagnosed, and political will. The DOTS strategy is implemented along with RNTCP across the country. Some of the challenges to be overcome by the TB programme are weak coverage, weak involvement of civil society, weak health system, unsupervised private practitioners following their own line of treatment, and the threat of a dual disease burden of HIV/AIDS and TB as opportunistic infection with a potential to increase the number of cases substantially. Table 3.25 presents data for Bihar and India for 2005. It is seen from the table that the coverage of the RNTCP programme is very low in the state, 43% as compared to the country as a whole (93%). Such low coverage has implications for the number of patients registered for treatment and early diagnosis. The number of New Sputum Positive cases for TB in Bihar for all four quarters in 2006 is 40.

Table 3.25. TB Incidence, Prevalence and Treatment Rates in Bihar and India, 2005

	Population Covered by RNTCP	Patients Registered for Treatment	Smear Positive Patients Diagnosed	New smear Positive Patients Registered	Annual new Smear Positive Case Detection Rate	New Sputum Positive Cases out of new pulmonary cases (%)
Bihar	395 (43%)	7809	3705	2386	25 (34%)	40
India	10302 (93%)	346264	209961	138718	55	74

Source: State Health Society, Bihar, 2005.

TB has re-emerged as a major public health problem in India and often as an associated illness of HIV/AIDS. In India it continues to be a serious health threat even in the absence of HIV/AIDS due to poverty, high illiteracy and poor sanitation. For the first time, TB prevalence has been reported in NFHS-3. Bihar ranks third in TB prevalence in the country (735 per 1,00,000 persons) after Arunachal Pradesh (9096) and Manipur (804). In Bihar 96.1% of men have heard about TB, of which 58.5% have misconceptions about its transmission. The disease still carries a high level of stigma in the state, with 17.2% of those surveyed still wanting the fact of a family member's TB kept secret from neighbours.

Japanese Encephalitis

This vector-borne disease is prevalent in about 65 districts in ten endemic states; the annual caseload is about 2500 cases and 500 deaths, mostly of children below the age of five. Nearly 90% of cases are reported from Andhra Pradesh, Uttar Pradesh, Karnataka and West Bengal. But this

disease has spread to non-traditional areas as well such as in Kerala. Control strategies continue to focus on early diagnosis, case management, vector control (two rounds of residual insecticidal spraying), fogging by Malathion insecticide, and segregation of pigs and promotion of personal prophylaxis. While high costs limit the use of vaccination, no curative drugs exist. Table 3.26 presents data for the incidence of the disease in Bihar and India for the period 2001–05. It is seen from the table that the state had a low concentration of Japanese encephalitis cases till 2003 excepting for the year 2001. However, the number of cases rose from 85 in 2004 and reached a high of 195 in 2005. The country as a whole also experienced more number of Japanese encephalitis cases in 2005. The number of deaths were the highest 64 in 2005 in Bihar.

Table 3.26. Japanese Encephalitis Cases in Bihar and India, 2001–05

Year	Cases			Deaths		
	Bihar	All India	col. (2) as % of col. (3)	Bihar	All India	col. (5) as % of col. (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2001	48	2061	2.3	11	479	2.3
2002	8	1765	0.4	1	466	0.2
2003	6	2568	0.2	2	707	0.3
2004	85	1714	4.9	28	367	7.6
2005	192	6727	1.3	64	1682	3.8
2006 (P) Up to September	21	2069	1.0	3	444	0.6

Source: Annual Report 2006-07, Ministry of Health and Family Welfare, Government of India.

Leprosy

Leprosy is caused by Mycobacterium leprae, which morphologically resembles Mycobacterium tuberculosis. The reservoirs of leprosy are infectious leprosy patient(s) who are not taking Multi Drug Therapy (MDT) and are in prolonged contact with healthy persons. About 95% of people in the community are immune to the disease. Only less than 20% of leprosy patients are of infectious type and with MDT they become non-infectious rapidly. MDT is a combination of the drugs Rifampicin, Clofazimine and Dapsone. Even a single dose of MDT kills 99.9% leprosy bacilli under laboratory conditions. There is no threat of disease transmission if the patient is taking treatment at home. It takes only six months to one year of complete treatment with MDT to cure paucibacillary and multibacillary type of patients, respectively. Leprosy bacilli have very weak potential of causing the disease and they multiply very slowly as compared to most other bacteria. Under the National Leprosy Eradication Programme (NLEP), domiciliary treatment is advised. Leprosy deformity is not associated with infectivity of the disease. Patients seen with mutilated limbs are old burnt-out cases with no active disease and thus do not transmit disease.

Leprosy is endemic mainly in the states of Bihar, Jharkhand, Chhattisgarh, Uttar Pradesh, West Bengal, Orissa and Madhya Pradesh. Of the total 2.66 lakh recorded leprosy cases as on 31 March 2004, 75% cases have been contributed by seven states: Orissa (5%), Chhattisgarh (5%), Jharkhand (4%), Uttar Pradesh (23%), Bihar (17%), Maharashtra (11%), West Bengal (10%). Before the introduction of MDT in the early 1980s India recorded a prevalence of 57.6 leprosy cases per 10,000 population in 1981.

Bihar is a high prevalence state and ranks seventh-highest in India after Chhattisgarh, Chandigarh, Jharkhand, Orissa and Uttar Pradesh. Number of females detected with leprosy are 15,909, which is 39.38% of patients. The number of child patients are 7430, which is 18.39% of patients. This is for 2004-05. Bihar has not yet achieved the level of leprosy eradication. The state had 15.5% of the leprosy cases in the country as of 2006 (see Table 3.27).

Table 3.27. Leprosy Cases and Prevalence in Bihar, 2006

	Estimated Population, March 2005	New Cases Detected	Cases Discharged as Cured	Cases on Record under Treatment	Prevalence Rate (per 10,000 population)
Bihar	91482682	40395	68214	16532	1.81
India	1109670816	260063	376934	148910	1.34

Source: Annual Report 2006-07, Ministry of Health and Family Welfare, Government of India.

Four nation-wide Modified Leprosy Elimination Campaigns (MLECs) with intensified community IEC (information, education, communication) have been conducted as special efforts towards early detection of leprosy cases and their prompt MDT. The Fifth MLEC was conducted in eight high-priority states during 2003-04. The hard-to-reach areas in rural/tribal/hilly terrain as well as urban slums are given special priority for continued surveillance and prompt MDT to leprosy patients. MDT is now available free-of-cost on all working days at all Sub Centres, Primary Health Centres, government dispensaries and hospitals across the country.

Lymphatic Filariasis

Filariaris declined in the late 1980s in India, but increased from 1989 to 2000. The National Filaria Control Programme provides assistance to all eighteen endemic states, the most endemic being Andhra Pradesh, Orissa, Uttar Pradesh, West Bengal, Tamil Nadu, Kerala and Bihar. The estimated population exposed to the risk of filariais and microfilaria carriers and filaria cases during 2004-05 is given in Table 3.28.

Table 3.28. Estimated population exposed to risk of filariais and microfilaria carriers and filaria cases, 2004-05

	Population at Risk						Microfilaria Carriers		Diseased Person	
	Total		Rural		Urban					
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
Bihar	72.00	72.00	62.80	62.80	9.20	9.20	0.49	0.64	3.20	2.72
India	472.69	472.69	347.81	347.81	124.88	124.88	0.66	0.32	1.17	1.13

Source: Annual Report 2006-07, Ministry of Health and Family Welfare, Government of India.

HIV/AIDS

HIV/AIDS is a major health problem in India. Currently about 5.2 million people are living with the virus. This is a medical and social problem. Information on or awareness of HIV/AIDS is available only for NFHS-2 and 3. These show that the level of awareness of AIDS has increased among men and women, but NFHS-3 shows that the level of awareness of AIDS among women is extremely low, a pattern seen in the RCH II data as well. Data are not available for RCH I.

The RCH II awareness data for RTI (reproductive tract infection) and STI (sexually transmitted infection) throw light on interesting findings. Significantly more number of women in Bihar are aware of RTI and STI than in India. But the percentage of women seeking treatment is very low as compared to men (see Table 3.29). RTI/STI management and treatment remains one of the most neglected areas in maternal health. Keeping in mind the increasing vulnerability of married women to HIV/AIDS, there is need to bring in more women to treatment and counselling centres for reduced gynaecological problems and better maternal health.

Table 3.29. Knowledge of HIV/AIDS among Ever Married Adults (15–49 years) Bihar and India (%)

	NFHS-3		NFHS-2		RCH IIDLHS 2002–04	
	Bihar	India	Bihar	India	Bihar	India
Women who have heard of AIDS	35.2	57.0	10.5	40.3	28.8	53.6
Men who have heard of AIDS	70.0	80.0	n.a.	n.a.	62.1	75.8
Women who know that consistent condom use can reduce the chances of getting HIV/AIDS	22.4	34.7	n.a.	n.a.		
Men who know that consistent condom use can reduce the chances of getting HIV/AIDS	58.4	68.1	n.a.	n.a.		

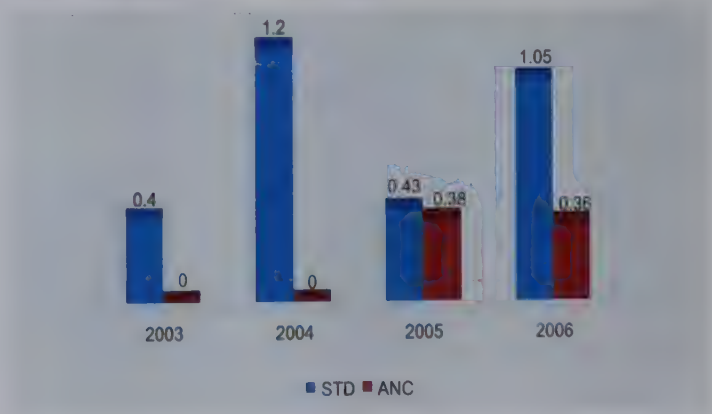
Part of the vulnerability of the state lies in a population where illiteracy is still widespread despite improving educational levels. The state is also a major crossroads for commercial traffic, which is one way HIV is known to spread. Bihar is India's most rural state with 89% of its population living in rural areas, so that reaching people with essential HIV information is especially difficult. A low level of HIV prevalence presents both an opportunity and a danger. The opportunity to arrest its spread is here today. The danger is that its quiet nature will expand its devastation tomorrow. While HIV prevalence is low at present, the state is considered highly vulnerable by the National AIDS Control Organization (NACO). Table 3.30 presents the prevalence of HIV infection in Bihar and India in 2003–06 as per the STD and ANC sentinel surveillance sites. Figure 3.23 illustrates the data graphically for Bihar. As per NFHS-3 Bihar has HIV prevalence of 0.13%, with the rate among women being 0.09% and for men being 0.18%.

Table 3.30. Prevalence of HIV Infection in Bihar and India, 2003–06 (%)

Year	Bihar		India	
	STD	ANC	STD	ANC
2003	0.40	0.00	5.7	0.9
2004	1.20	0.00	5.6	0.9
2005	0.43	0.38	5.6	0.9
2006	1.05	0.36	n.a.	n.a.

Source: HIV/AIDS Chart book, Population Foundation of India, 2007.

Figure 3.23. HIV/AIDS prevalence in Bihar, PFI-PRB 2003–06 (%)



Statewide, the percentage of positive cases rose from 0.67 in 2005 to 0.76 in 2006. This is a danger sign. In 2006 BSACS greatly increased the number of sentinel sites to widen the scope of HIV surveillance. Data are also available for 2005 and 2006 of HIV prevalence among female sex

workers (FSW) and men having sex with men (MSM). The prevalence rate among FSW was 2.24 in 2005 and 1.68 in 2006. Similarly, the prevalence rate among MSM was 0.40 in 2005 and 0.30 in 2006. The reduction is attributed to increase in sentinel sites.

The presence of a sexually transmitted disease (STD) increases the risk of HIV. As a result, knowledge of STD and the link between them and HIV is clearly essential. Knowledge of the existence of STD in Bihar is the lowest in India at only 18% and only 11% among women. Only 15% were aware of STD and of the fact that such diseases increase the likelihood of contracting HIV.

Coverage data for HIV testing as per NFHS-3 show that in Bihar the coverage rate in the age group 15-49 is 88.2% among women and 87.9% among men.

Non-communicable Diseases

Health transition, whereby non-communicable diseases (NCDs) become the dominant contributor to Burden of Diseases (BoDs), is principally due to a combination of demographic and lifestyle changes resulting from socio-economic development. Demographic transition is characterized by changes in population age structure with a decline in fertility and an ageing population. As more individuals survive to middle age, the years of exposure to the risk factors of chronic disease increase. Simultaneously, urbanization, industrialization and globalization are often accompanied by undesirable lifestyle alterations: changing diet, decreased physical activity and augmentation of psychosocial stress. India contributes substantially to the global burden of NCDs. The 1998 Global Burden of Diseases (GBoDs) study estimates that injuries, other than self-inflicted, contribute to 4.3% of deaths in India. They account for significant morbidity, disability and economic loss. NCD epidemics are emerging or accelerating in most developing countries and cardiovascular diseases (CVD), cancers, diabetes, neuro-psychiatric ailments and other chronic diseases are becoming major contributors to the BoD. The existing health system will need to be reoriented to deliver the expanded mandate of primary and secondary healthcare involving the prevention, surveillance and management of chronic diseases.

Diabetes has a high prevalence in urban and migrant population. As the quality of dietary habits and physical activity decreases and obesity increases, diabetes becomes a greater contributor to NCD. As per NFHS-3 the number of women aged 15–49 per 1,00,000 who reported as diabetic in Bihar were 1024 as compared to 881 in India. In Bihar 940 men suffer from diabetes as compared to 1051 for India. This rate of diabetes among women in Bihar is on the higher side since it is above 1000.

Disorders of mental health merit special attention because of the large burden of disability (DALY loss) resulting from them, even though they are not major contributors to mortality. The prevalence of major mental illness in the country has been estimated to be 1–2 per thousand, while minor mental illness occurs in 5–10% of the population, as per various estimates.

It may appear that the problem of our *ageing population* is not yet relevant except for a few states in the South. However, given the fact that fertility decline is taking place in large segments of the country, it will not be long before this issue becomes important.

National Survey of *Blindness* 2001-02 (visual acuity) reveals that less than 6/60 vision in Bihar is 0.78% as compared to 0.56% for India.

Injury prevention and management has been limited to the provision of emergency care that functions with limited access and coverage. Currently, no structured programme is available. There is need to develop an inter-sectoral-based programme addressing increasing injuries in the growing context of urbanization and infrastructure development. The state needs to keep in view the increasing dense urban habitat and develop better city management.

Tobacco use is associated with a wide range of diseases, including several types of cancers of the heart and lungs. It also poses great health risks such as infertility, pregnancy complications, premature births, low birth weight babies, stillbirths and infant deaths for those women who use tobacco. Addiction to tobacco and other type of substances is high in Bihar. Chewing tobacco is an area of concern in the state along with *alcoholism and substance abuse* such as drugs, heroin, cocaine and marijuana, khaini, zarda and gutka. Consumption is particularly higher among the rural poor, the youth rather than the urban population. Therefore tobacco-related NCD could be higher in future in Bihar. About 30% of cancers are caused by tobacco use. These can be prevented with health, education and avoiding tobacco in all forms. The 50th round of NSSO and NFHS-2 reported use of tobacco by all household members in Bihar. According to NFHS-3 in Bihar 66.6% of men and 8.0% of women use tobacco in any form. Men who smoke cigarettes and bidis constitute 29.0% of the tobacco using population in the state, the corresponding figure for women being 4.9%. Alcohol use among men in the state stands at 34.9% and 9.0% among women.

It is seen from NFHS-3 data that Bihar has a high number of people, particularly women suffering from *asthma,* 1696 per 100,000, which corresponds to the all-India figure. For men the corresponding figures are 981 (Bihar) and 1627 (India).

Goitre or other *thyroid disorders* in Bihar have been moderate. As per NFHS-3, 853 women per 1,00,000 persons suffer from goitre or other thyroid disorders in Bihar as compared to 273 for men. In India the figures are slightly higher, with 949 for women and 383 for men.

The Burden of Disease also includes the entire spectrum of *cardiovascular diseases*, which includes stroke and rheumatic heart disease. These and other types of *cancers* such as of the breast, cervix, oral cavity and gastrointestinal tract are rapidly advancing. While the precise dimensions of the diseases are not clear, it needs to be kept in mind that these are emerging problems of the future, more so among women.

IV. Nutrition

Malnutrition continues to be a predominant problem of the state and its manifestation and consequences are diverse and alarming. The level of malnourishment is quite high. Of all segments of the population children and women appear to be more at risk than are others. Malnutrition is seen to be a major contributing factor in over 50% of child mortality; states with high mortality are also generally those with high levels of malnutrition. Nutritional deficiencies have been observed to affect physical and mental development of children adversely, impairing health and productivity of work. Tables 3.31 and 3.32 present data for the levels of malnourishment in the under-3 and under-5 category, respectively, in Bihar and India. Figures 3.24a and 3.24b illustrate the data from Table 3.32. Figure 3.25 presents the level of malnutrition in the state in 1998. Table 3.33 and Figure 3.26 present the distribution of severely undernourished children (1–5 years) in India in 1998. The India Nutritional Profile Study (1998) found the maximum number of severely malnourished children (1–6 years) were from Bihar (26%), followed by Tripura (19%) and Rajasthan (10%). Nutritional status of children (5–12 years) severely malnourished was the highest in Bihar (21.7%), followed by Dadra, Nagar Haveli and Daman and Diu (13.7%) and Rajasthan (11.5%).

Table 3.31. Nutritional Status of Children under 3 Years in Bihar and India as per NFHS-2 (%)

	Weight for Age		Height for Age		Weight for height	
	Below –3SD	Below –2SD	Below –3SD	Below –2SD	Below –3SD	Below –2SD
Bihar	25.5	54.4	33.6	53.7	5.5	21.0
India	18.0	47.0	23.0	45.5	2.8	15.5

Source: India Nutrition Profile (1998), Food and Nutrition Board, Department of Women and Child Development, Ministry of Human Resource Development, p. 18.

Figure 3.24a. Nutrition levels in boys in rural Bihar, India Nutrition Profile 1998

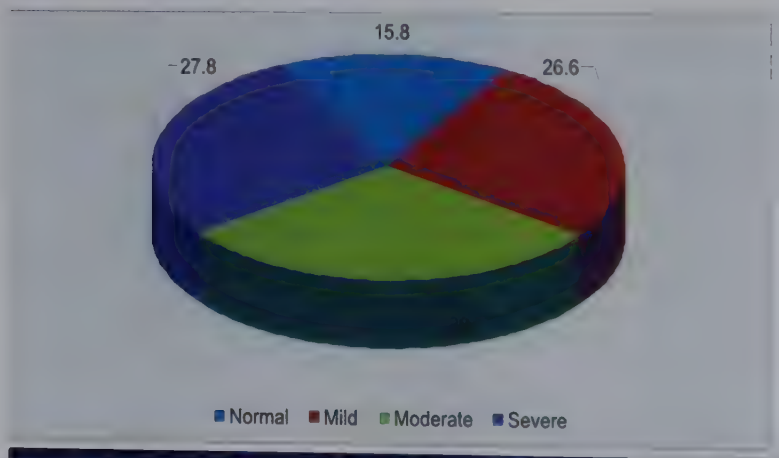


Figure 3.24b. Nutrition levels in girls in rural Bihar, India Nutrition Profile 1998

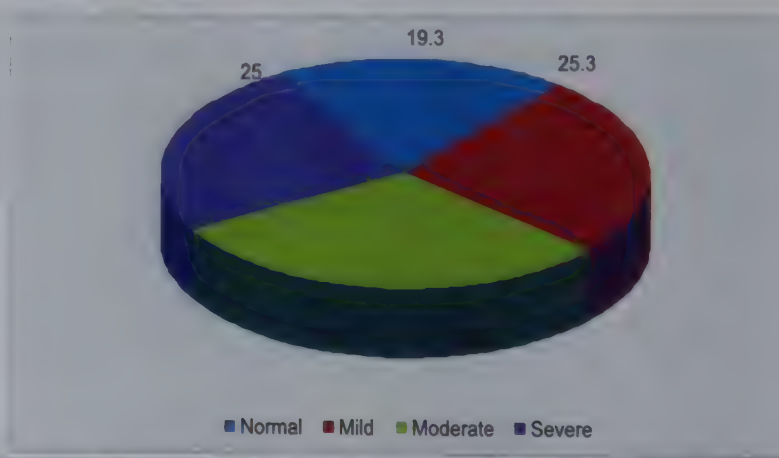


Table 3.32. Distribution of Nutritional Status of Children (1–5 years) According to Weight for Age, in Percentage (Gomez Classification), 1998, as per NFHS-2

Area	Boys				Girls				Total			
	Normal	Mild	Moderate	Severe	Normal	Mild	Moderate	Severe	Normal	Mild	Moderate	Severe
Total	16.3	27.1	29.4	27.2	19.3	25.3	30.4	25.0	17.7	26.2	29.9	26.2
Rural	15.8	26.6	29.7	27.8	18.5	25.7	30.5	25.3	17.1	26.2	30.1	26.6
Urban	18.5	29.3	27.9	24.3	23.3	23.3	29.6	23.9	20.7	26.5	28.7	24.1

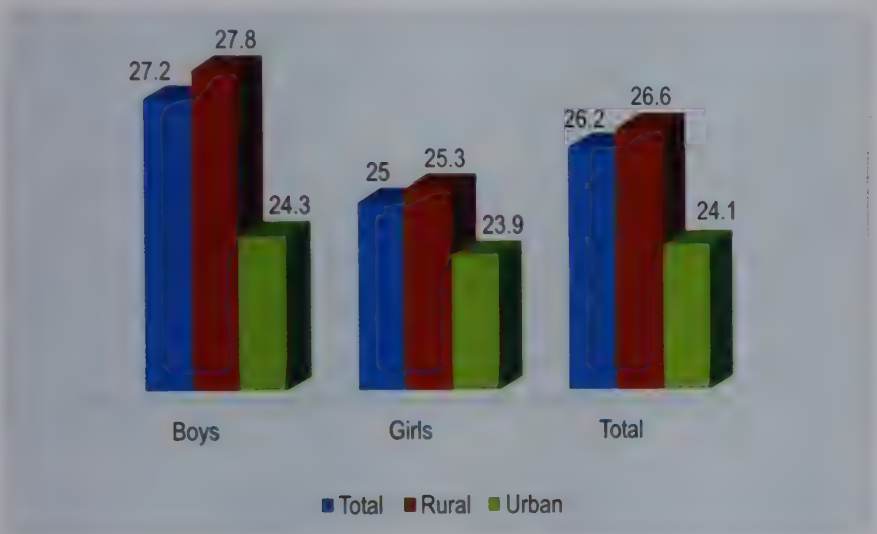
Source: India Nutrition Profile (1998), Food and Nutrition Board, Department of Women and Child Development, Ministry of Human Resource Development, p. 18.

Table 3.33. Distribution of Severely Undernourished Children (1–5 years) in States/UTs (in %), Gomez Classification (District Nutritional Profile Study), 1998

Prevalence (%)	States
<=5	Haryana, Himachal Pradesh, Punjab, Chandigarh, Sikkim, Assam, Manipur, Meghalaya, Mizoram, Nagalanad, Goa
6–10	Rajasthan, Delhi, Arunachal Pradesh, Tripura, Dadar and Nagar Haveli, Daman and Diu, Sikkim
>10	Bihar (26%)

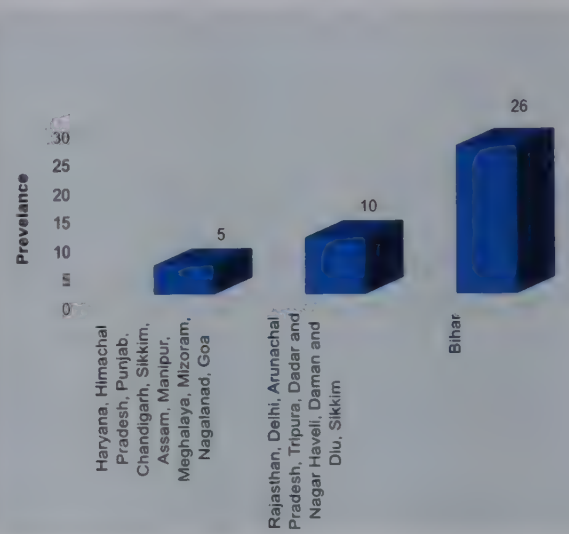
Source: India Nutrition Profile (1998), Food and Nutrition Board, Department of Women and Child Development, Ministry of Human Resource Development, p. 18.

Figure 3.25. Severe under-nutrition levels in boys and girls in Bihar, 1998



Source: India Nutrition Profile (1998), Food and Nutrition Board, Department of Women and Child Development, Ministry of Human Resource Development.

Figure 3.26. Severe under-nutrition levels in children 1–5 years in India, 1998



Source: Table 3.33.

The nutritional status of children is strongly related to maternal nutritional status, which reflects in infant birth weight. Malnutrition generally sets in during the first two years of life. The most vulnerable age group has been identified as six months to two years, the 'period of perpetual hunger' when the infants are dependent on another person for feeding. The Independent Commission of Health in India 1998, states that every infection is a potentially fatal illness and the risk of death is doubled for the mildly undernourished children, tripled for the moderately undernourished children and maybe as many as eight times for severely undernourished children. NFHS-3 data indicate that only 4% of children under 3 years are exclusively breast-fed in Bihar as compared to 55% in India. Exclusive breast-feeding of infants less than five months old is also very low in Bihar (27.9%) as compared to India (60%, see Table 3.34). Table 3.35 presents data for breast-feeding and colostrum feeding practices in Bihar and India for 2005. Table 3.36 presents data on the nutritional status of children and married adults in Bihar compared to India. It may be noted that most of the nutrition-related data are not comparable for NFHS-1. Figures 3.27 and 3.28 illustrate the data graphically. It is seen from the table that the nutritional status of children in Bihar continues to be the worst in India. The proportion of children who are stunted decreased steadily with age from NFHS-2 (54.9%) to NFHS-3 (42.3%), whereas the proportion of under-

weight and wasted children increased (from 19.9%, NFHS-2 to 27.7%, NFHS-3) up to the age of 12–23 months and then declined significantly at age 24–35 months over the five years between the two surveys. Girls and boys are equally undernourished but girls are slightly more likely than boys to be underweight and stunted, whereas boys are slightly more likely to be wasted. Undernourishment generally increases with birth order. Young children in families with four or more children are nutritionally the most disadvantaged. It is a matter of concern that the overall level of malnutrition has increased among children in Bihar from NFHS-2 to NFHS-3.

Table 3.34. Child Feeding Practices in Bihar and India, NFHS data (%)

Child Feeding Practices	NFHS-3 (2005-06)		NFHS-2 (1998-99)		NFHS-1 (1992-93)	
	Bihar	India	Bihar	India	Bihar	India
Children under 3 years breast-fed within one hour of birth	4.0	50.0	5.4	16.0	n.a.	9.5
Children age 0–5 months exclusively breast-fed	27.9	60.0	n.a.	n.a.	n.a.	n.a.
Children below 6–9 months receiving solid or semi-solid food and breast milk	57.3	77.6	n.a.	n.a.	n.a.	n.a.

Table 3.35. Breast-feeding and Colostrum Feeding Practices in Bihar and India, 2005 (%)

	Bihar	India
Breast feeding < 2 hours	17.4	40.9
Breast feeding between 2–24 hours	41.8	27.8
Exclusive breast feeding	25.9	39.3
New-born given colostrum	61.5	75.1

Source: Annual Report 2006-2007, Ministry of Health and Family Welfare, Government of India, New Delhi.

Table 3.36. Nutritional Status of Children and Married Adults in Bihar (%)

		NFHS-3		NFHS-2		NFHS-1	
		Bihar	India	Bihar	India	Bihar	India
Nutritional Status of children under 3 years	Stunted i.e. height/age – too short for age	42.3	38.4	54.9	45.5	n.a.	n.a.
	Wasted i.e. weight for height – too thin for height	27.7	19.1	19.9	15.5	n.a.	n.a.
	Underweight i.e. weight for age – too thin for age	58.4	45.9	54.3	47.0	21.8	51.5
Nutritional Status of Ever Married Adults (age 15–49)	Women whose Body Mass Index is below normal	43.0	33.0	39.1	36.2	n.a.	n.a.
	Men whose Body Mass Index is below normal	28.7	28.1	n.a.	n.a.	n.a.	n.a.
	Women who are overweight or obese	5.3	14.8	3.9	10.6	n.a.	n.a.
	Men who are overweight or obese	8.5	12.1	n.a.	n.a.	n.a.	n.a.
Anaemia	Children age 6–35 months who are anaemic	87.6	79.2	81.1	74.2	n.a.	n.a.
	Ever married women age 15–49 who are anaemic	68.3	56.2	60.4	51.8	n.a.	n.a.
	Pregnant women age 15–49 who are anaemic	60.2	57.9	46.4	49.7	n.a.	n.a.
	Ever married men age 15–49 who are anaemic	32.4	24.3	n.a.	n.a.	n.a.	n.a.

Figure 3.27. Nutritional status of children in Bihar under 3 years, NFHS-3 and NFHS-2

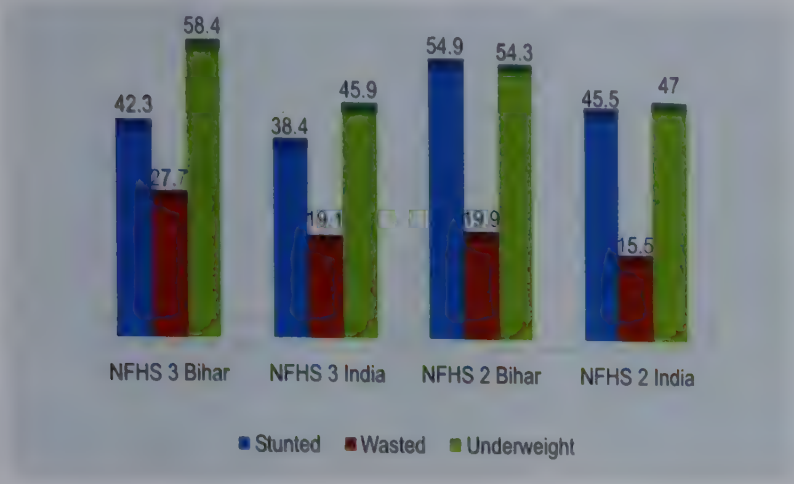
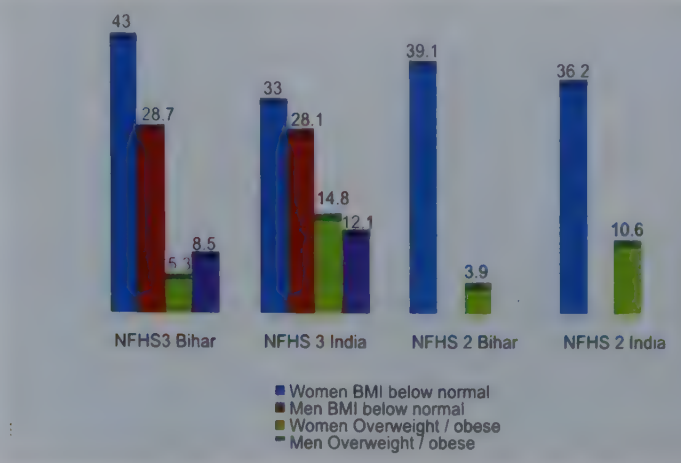


Figure 3.28. Nutritional status of married adults in Bihar, NFHS-3 and NFHS-2

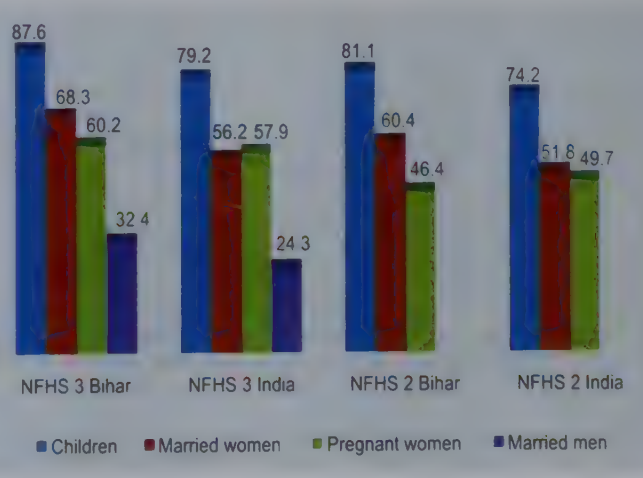


Weight for height ratio is used to calculate several indicators of women's nutritional status. An adult's height is an outcome of several factors, including nutrition during childhood and adolescence. A woman's height can be used to identify women at risk of having a difficult delivery, since small stature is often related to small pelvic size. The risk of having a baby with low birth weight is also higher for mothers who are short. Short stature is particularly strongly related to poverty.

Body mass index (BMI) is defined as the weight in kilograms for height in square metres (kg/m^2). It is an index that can be used to assess both thinness and obesity. BMI for women in Bihar who are below normal is 43%, which indicates high levels of nutritional deficiency. Women from households with low standard of living are more than two times likely to have a low BMI than women from households with a high standard of living.

Anaemia is characterized by a low level of haemoglobin in the blood. Anaemia usually resolves from a nutritional deficiency of iron, folic acid, vitamin B12 and some other micro nutrients. This type of anaemia is commonly referred to as iron deficiency anaemia. Iron deficiency is the most widespread form of malnutrition in India and is estimated at 50% (Sheshadri 1998). Anaemia has a detrimental effect on the health of women and children and may become an underlying cause of maternal mortality and peri-natal mortality and results in increased risk of premature delivery and low birth weight babies. In Bihar anaemia level is 68.3% among women in NFHS-3 as compared to 60.4% in NFHS-2. Anaemia is relatively high for illiterate women and women belonging to religions other than Hindu or Muslim, Scheduled Tribe women and self-employed women. Pregnant women are more likely to have moderate to severe anaemia than non-pregnant women. Figure 3.29 presents data for anaemia prevalence in Bihar.

Figure 3.29. Anaemia prevalence in Bihar, NFHS-3 and NFHS-2



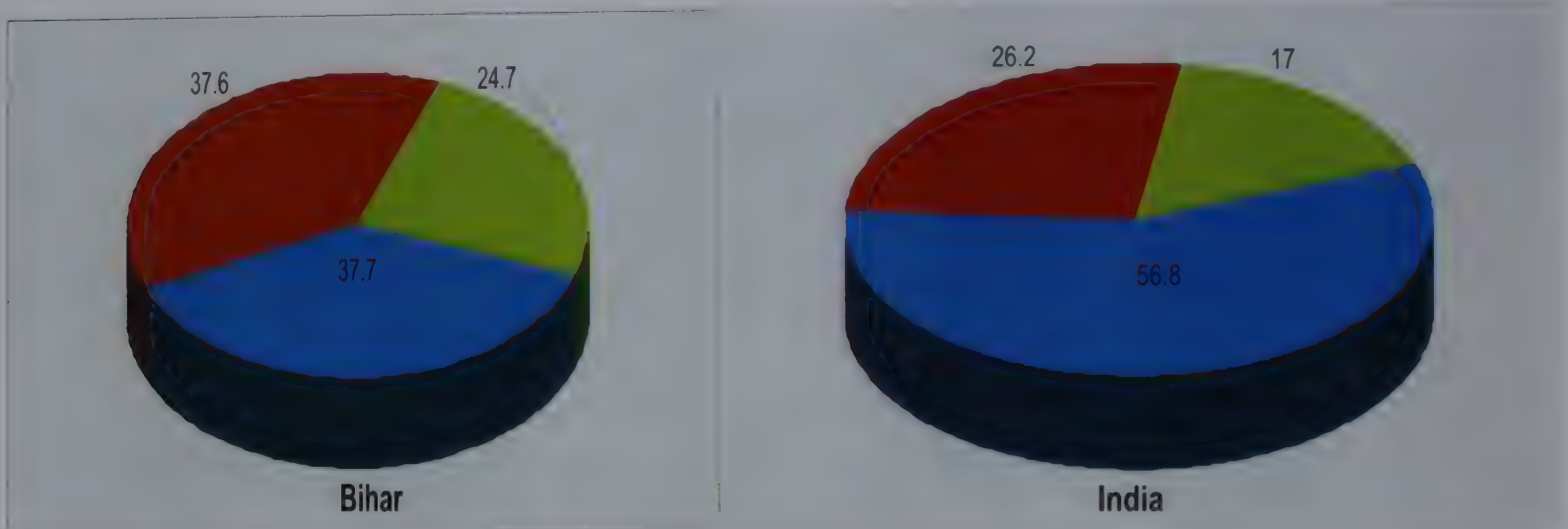
Iodine deficiency. Approximately two-thirds of the population of Bihar is prone to iodine deficiency. Only 37.7% of the population uses fortified iodized salt as compared to 56.8% in India. A significant one-fourth of the population in the state use non-iodized salt. This increases the danger of higher incidence of goitre. Table 3.37 and Figure 3.30 (a) and (b) present details.

Table 3.37. Households Reporting Use of Salt Types in Bihar and India, 2005 (%)

	Bihar	India
Iodized (> 15 ppm)	37.7	56.8
Iodized (1–15 ppm)	37.6	26.2
Not iodized	24.7	17.0

Source: Coverage Evaluation Report 2005, Government of India.

Figure 3.30. Use of iodized and non-iodized salt in (a) Bihar, (b) India, Coverage evaluation Report 2005



To sum up, among adults the level of undernourishment is especially high among women, with less BMI and significantly high percentage of married women and pregnant women are anaemic. Another cause for concern is the increased level of anaemia among children, married women and pregnant women between NFHS-2 and NFHS-3, which raises issues related to the effectiveness and access to nutritional services and schemes for children and pregnant women. Special attention needs to be given to younger married women and younger women who are pregnant, many of whom are in their adolescent years and are often left out of healthcare services.

V. Reproductive and Child Health

Until 1994 thinking and policy orientation on population issues focused on the control of numbers and limiting the level of population. ICPD (Cairo 1994) brought about a paradigm shift in this thinking. Now there is recognition of the need for comprehensive reproductive health (RH) and reproductive rights. This new agenda is a holistic agenda which addresses reproductive health through a lifecycle approach. Reproductive health has been defined as:

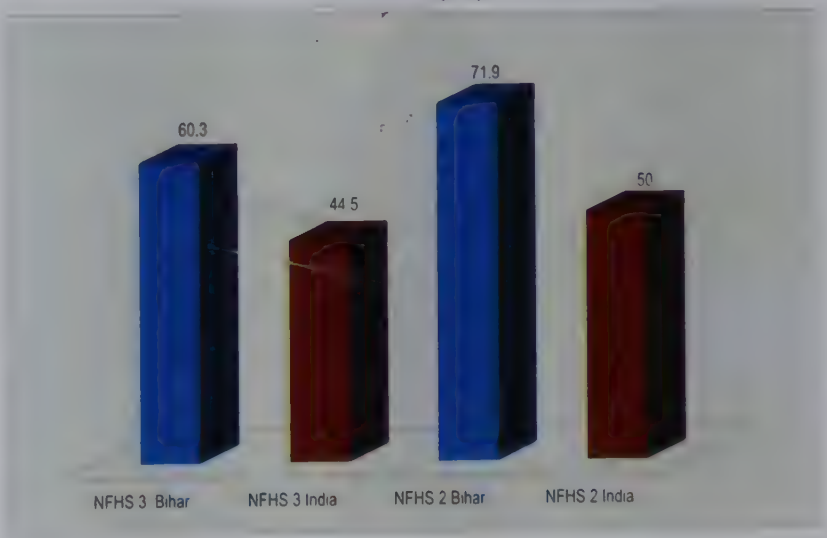
> State of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this condition are the rights of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods for the regulation of fertility which are not against the law, and the rights of access to appropriate healthcare services that will enable women to go safely through pregnancy and childbirth and provide couples the best chance of having a healthy infant.

In the context of India child mortality and infant mortality being critical, the reproductive health concept was broadened into Reproductive and Child Health (RCH) and the RCH programme was launched in 1997, which included child health as a component. Now the components of RCH programme include fertility regulation, safe motherhood, child health and child survival, and RTI/STI interventions, including HIV/AIDS. In the following paragraphs on the status of RCH in Bihar key data have been used from large-scale surveys such as the NFHS, District Rapid Household Survey (DRHS), and District Level Household Survey (DLHS) under the RCH programme.

Marriage and Fertility

TFR for Bihar at 4.0 as per NFHS-3 is higher than that of India (2.7) and also higher than 3.7 of NFHS-2. High TFR is associated with high percentage of women marrying before the age of 18 years (60.3% in Bihar). Almost one-fourth (25.0%) of married women in the age group of 15–19 years were pregnant at the time of the survey. Median age at first birth was 18.7 years. It is seen from Table 3.38, presenting marriage and fertility rates for Bihar and India, that a high percentage of women cohabit before 18 years of age. Figure 3.31 illustrates the data graphically.

Figure 3.31. Women married by age 18, NFHS Bihar (%)



As per NFHS-3, the proportion of women aged 20–24 married by the age of 18 in rural Bihar (65.2%) is almost twice that of urban Bihar (37.3%). Percentage women marrying below the age of 18 has a positive correlation with education. Higher percentage of women with no education

Table 3.38. Marriage and Fertility Rates for Bihar and India

Marriage and Fertility	NFHS-3 (2005-06)		NFHS-2 (1998-99)		NFHS-1 (1992-93)	
	Bihar	India	Bihar	India	Bihar	India
Women age 20–24 married by age 18 (%)	60.3	44.5	71.9	50.0	n.a.	52.4
Men age 25–29 married by age 21 (%)	43.3	29.3	n.a.	n.a.	n.a.	n.a.
Total fertility rate	4.0	2.68	3.71	2.85	n.a.	3.99
Women age 15–19 who were already mothers or pregnant at the time of the survey (%)	25.0	16.0	n.a.	n.a.	n.a.	n.a.
Median age at first birth for women age 25–49	18.7	19.8	18.9	19.3	n.a.	19.4
Birth order 3+	n.a.	n.a.	54.6	45.2	56.4	48.6
Married women with 2 living children wanting no more children (%)	60.2	83.2	41.8	72.4	n.a.	59.7
Married women with 2 living children wanting two sons (%)	77.4	89.9	58.8	82.7	n.a.	71.5
Married women with 2 living children wanting one son, one daughter (%)	67.5	88.1	43.7	76.4	n.a.	66.0
Married women with 2 living children wanting two daughters (%)	20.0	62.1	10.8	47.0	n.a.	36.9

(76.8%) were married below the age of 18 as compared to only 19.3% women who have completed 10 years of education. This implies that education is an important determinant in improving the age at marriage.

NFHS-1 and 2 data show that across religion there is a differential in age at marriage. Higher percentages of Muslim girls marry below the age of 18 than Christian girls. The age of marriage also shows significant increase with standard of living. More number of girls from poor families with low standard of living marry early than girls from families with higher standard of living.

The age at which a woman starts childbearing is an important determinant of reproductive health. The median age at first birth for women aged 25–49 has decreased from 18.9 in NFHS-2 to 18.7 in NFHS-3 (see Figure 3.32). The urban–rural divide in Bihar is by a year for women aged 25–49. The trend with women with no education is as low as 18.3% to 21.3% for those who have completed 10 years and above of education.

The distribution of birth by birth order is yet another way to view fertility. It is seen from Figure 3.33, which presents data for birth order 3 and above, that birth order 3+ has decreased in

Figure 3.32. Age at first birth for women, Bihar and India, NFHS data

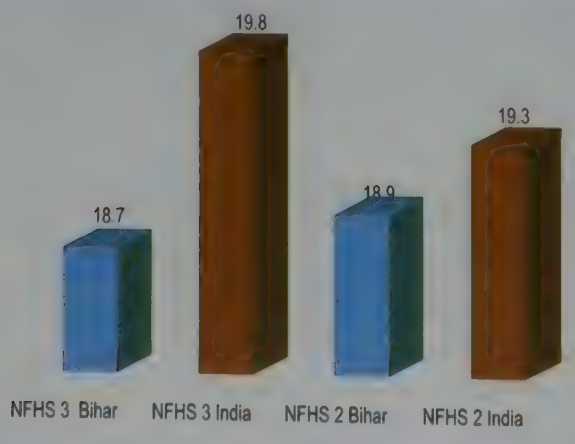
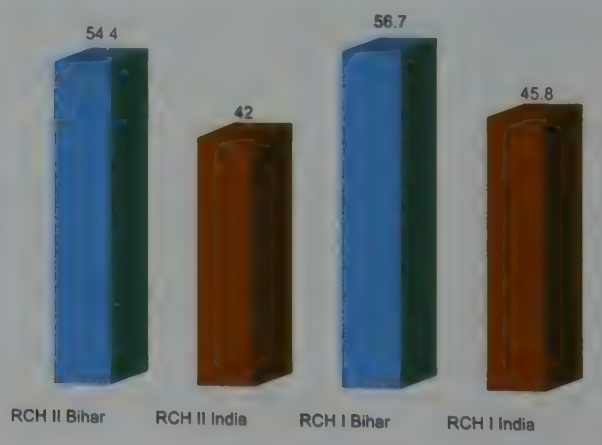


Figure 3.33. Birth order 3 and above, Bihar and India, NFHS data



the state across the various survey periods, NFHS-1 (56.4%) to NFHS-2 (54.6%) and from RCH I (45.8%) to RCH II (42.0%). This is in keeping with the all-India trend. The proportion of births of order 3+ is relatively large for births to illiterate women, Muslim women and Scheduled Caste and Scheduled Tribe women, and women with a low standard of living. There is also a positive association between fertility and work status.

The desire for additional children in rural Bihar is very high, especially for two children and in favour of sons. The birth interval is shorter if the previous child was a girl than if it was a boy. The interval is 29 months for Bihar as compared to 31 months for India. The primary reason for this desire is high mortality and morbidity in infants, especially neonates. The significantly higher levels of fertility and childbearing have implications for access to and quality of family planning programmes and services.

Marriage of girls at young age in India leads to teenage pregnancy and motherhood. Young women who become pregnant experience a number of health, social, economic and emotional problems. In addition to their relatively high level of pregnancy, complications because of psychological immaturity and inexperience associated with child care practices also influence maternal and infant health. As per NFHS-3 25% women in the age group 15–19 in Bihar have begun childbearing as compared to 16.0% in India. The proportion who have begun childbearing is more than twice as high in rural areas (19%) than in urban areas (9%). Early start to childbearing reduces educational and employment opportunities of women and is associated with high levels of fertility.

As per family welfare statistics 2006, unwanted pregnancies in India are extremely high due to high unmet need of contraception. The number of MTPs (medical termination of pregnancy) for 2004-05 was 29,669 in Bihar. Of these, 80.1% were conducted during the first 12 weeks of pregnancy (India 86.9%) and 19.9% during 12–20 weeks of pregnancy (India 13.2%). In terms of age group 19.3% of MTPs were for the age group 15–19 (India 4%), 31.7% for age 20–24 (India 28.6%), and 27.1% for age 25–29 (India 35.6%).

Family Planning

Family planning services have improved in Bihar across the three NFHS surveys (see Table 3.39) but continue to be lower than for India as a whole. There is overwhelming focus on female sterilization as a family planning method in comparison to male sterilization and other temporary methods. This is consistent with the all-India trend. Although resort to spacing methods has improved over the NFHS survey years, the level of condom use is very low (2.3% in NFHS-3) with use of pills and IUDs being even lower (1.3% and 0.6%, respectively). The trend remains the same for RCH also (see Figure 3.34).

Table 3.39. Current Use of Family Planning Methods, Bihar and India, NFHS data (%)

Current Use	NFHS-3 (2005-06)		NFHS-2 (1998-99)		NFHS-1 (1992-93)		RCH-2		RCH-1	
	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India
Any method	34.1	56.3	23.5	48.2	23.1	40.7	31.0	53.0	24.8	48.6
Any modern method	28.8	48.5	21.6	42.8	n.a.	36.5	27.3	45.7	23.3	42.4
Total sterilization	24.4	38.3	19.5	36.0	18.6	30.8	22.3	35.2	21.2	35
Female sterilization	23.8	37.3	18.5	34.1	n.a.	27.4	21.9	34.3	20.5	33.5
Male sterilization	0.6	1.0	1.0	1.9	n.a.	3.5	0.4	0.9	0.7	1.5
Total spacing methods	4.2	10.2	2.0	6.8	2.9	5.5	8.4	17.6	3.6	13.6
IUD	0.6	1.8	0.6	1.6	n.a.	1.9	0.8	1.9	0.5	1.9
Pill	1.3	3.1	0.8	2.1	n.a.	1.2	1.9	3.5	1.1	2.4
Condom	2.3	5.3	0.6	3.1	n.a.	2.4	2.0	4.8	0.6	3.1

Figure 3.34. Spacing methods of contraception, Bihar and India, NFHS and RCH data

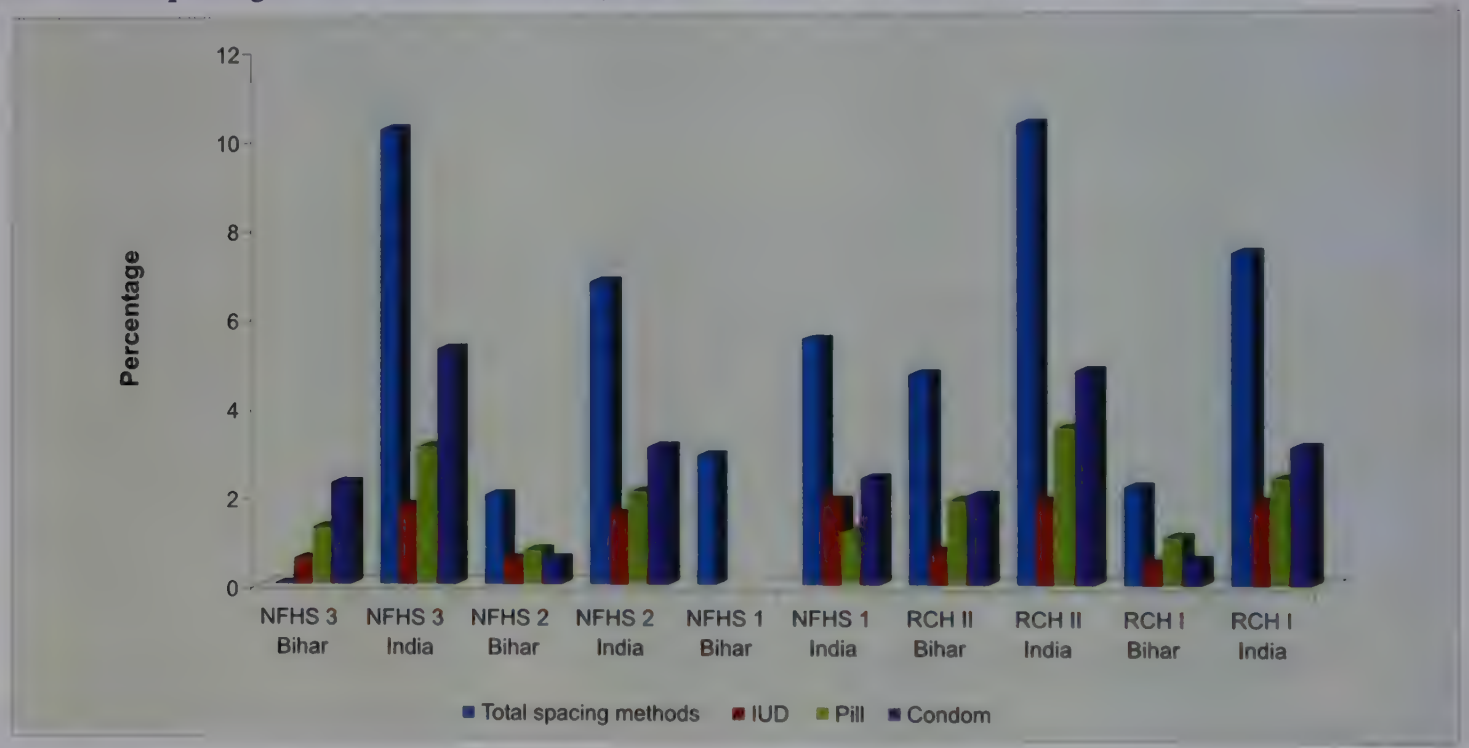
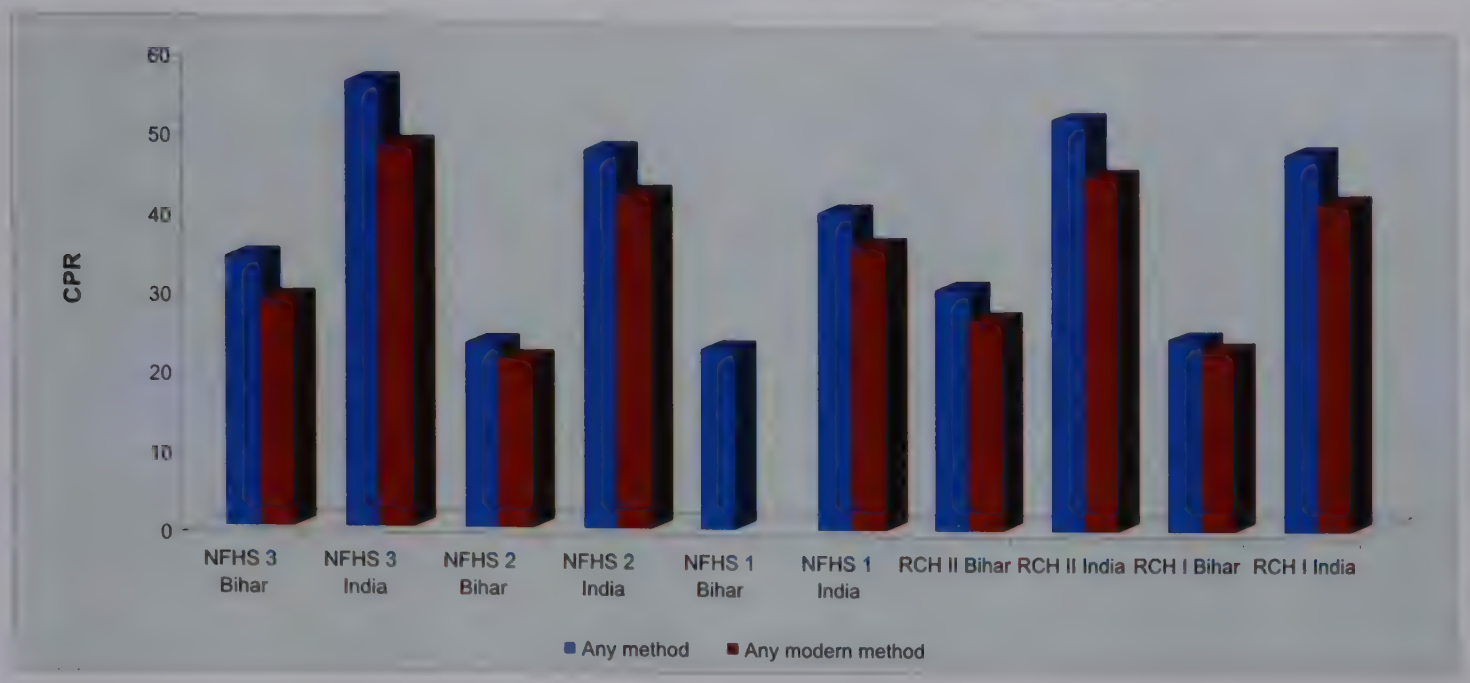


Figure 3.35 presents contraceptive prevalence rate for Bihar and India. Current use of contraceptive method is considerably high in urban areas in the state (50.6%) than in rural (31.4%). This is true for each specific modern or traditional method. Current use of contraceptive method is much lower among illiterate women (29%) than women who have completed ten years and above of education. The differences by education are also on account of the predominance of sterilization in the method mix and the fact that more educated women tend to be younger women who may not yet have reached their desired level of fertility. The use of spacing methods generally rises with education. The use of traditional methods also rises with education. Contraceptive prevalence is the lowest among Muslims and approximately three times higher among Hindus and Christians. Contraceptive prevalence is also highest among women who do not belong to the marginalized communities.

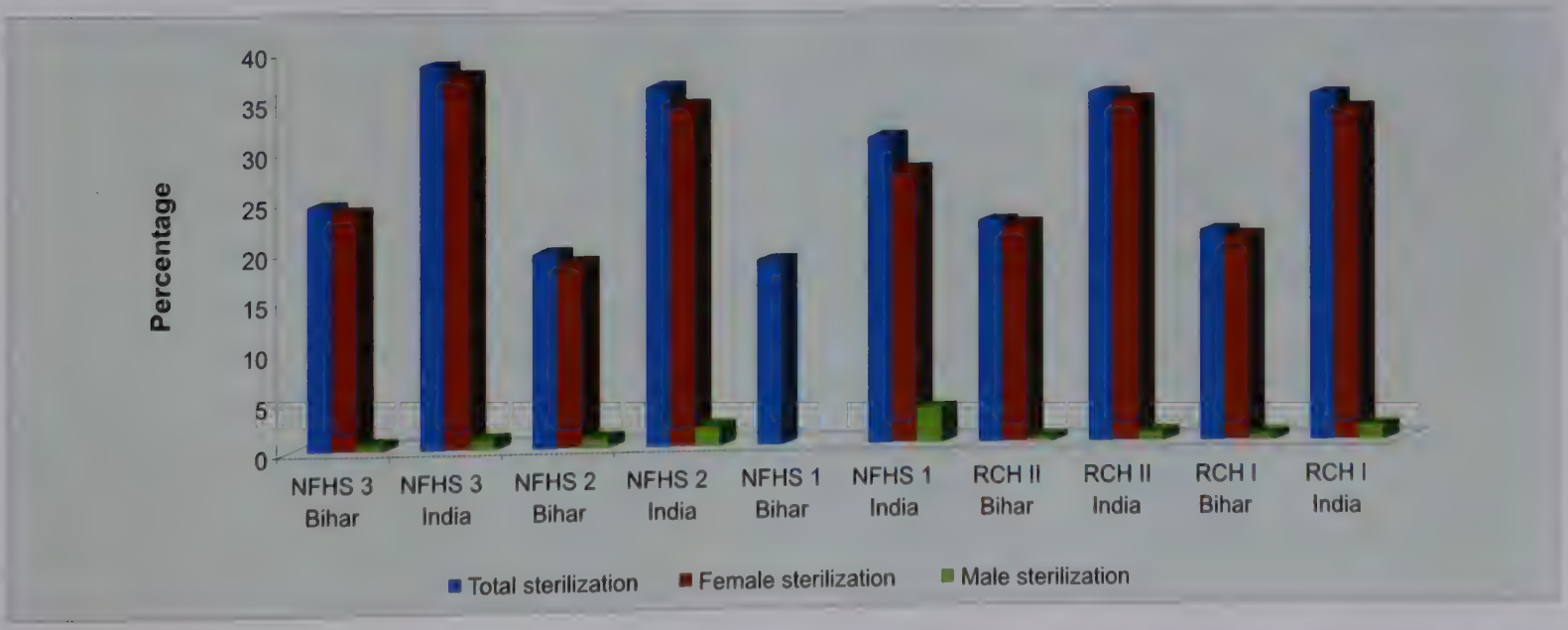
Figure 3.35. Contraception prevalence rate, NFHS and RCH Bihar and India



The low use of contraceptive methods in Bihar is contradictory to the 100% awareness levels among women and 99.4% among men of contraceptive use in Bihar (NFHS-3). Awareness of limiting methods among women is 99.9% for female sterilization and 92.3% for male sterilization; the corresponding figures for awareness among men are 98.0% and 95.8%, respectively. For both men and women awareness of spacing methods is very low for pills (95.7% for women and 86.5% for men), IUDs (79.15% and 48.2%), male condom (81.9% and 91.3%) and emergency contraception (4.7% and 19.8%).

In recent years the focus of the family planning programme has been on women and especially female sterilization. Male sterilization in Bihar is less than 1% (0.6% in NFHS-3 and 0.4% in RCH II) as compared to total sterilization (24.4% for NFHS-3 and 22.3% for RCH II; see Figure 3.36). Little attention has been paid to men, their role, needs, responsibilities, and involvement. Although men constitute half of the reproductive equation, the stereotype that most men do not care about family planning persists and family planning has been considered as women's business.

Figure 3.36. Limiting methods of contraception, NFHS and RCH Bihar and India



Female sterilization constitutes approximately four-fifths of all modern methods, with male sterilization accounting for the least. 31.2% of urban females are sterilized as compared to 22.6% in rural Bihar. A similar pattern is seen where illiterate women constitute 21.3% of female sterilization as compared to 29.0% of education class ten and above.

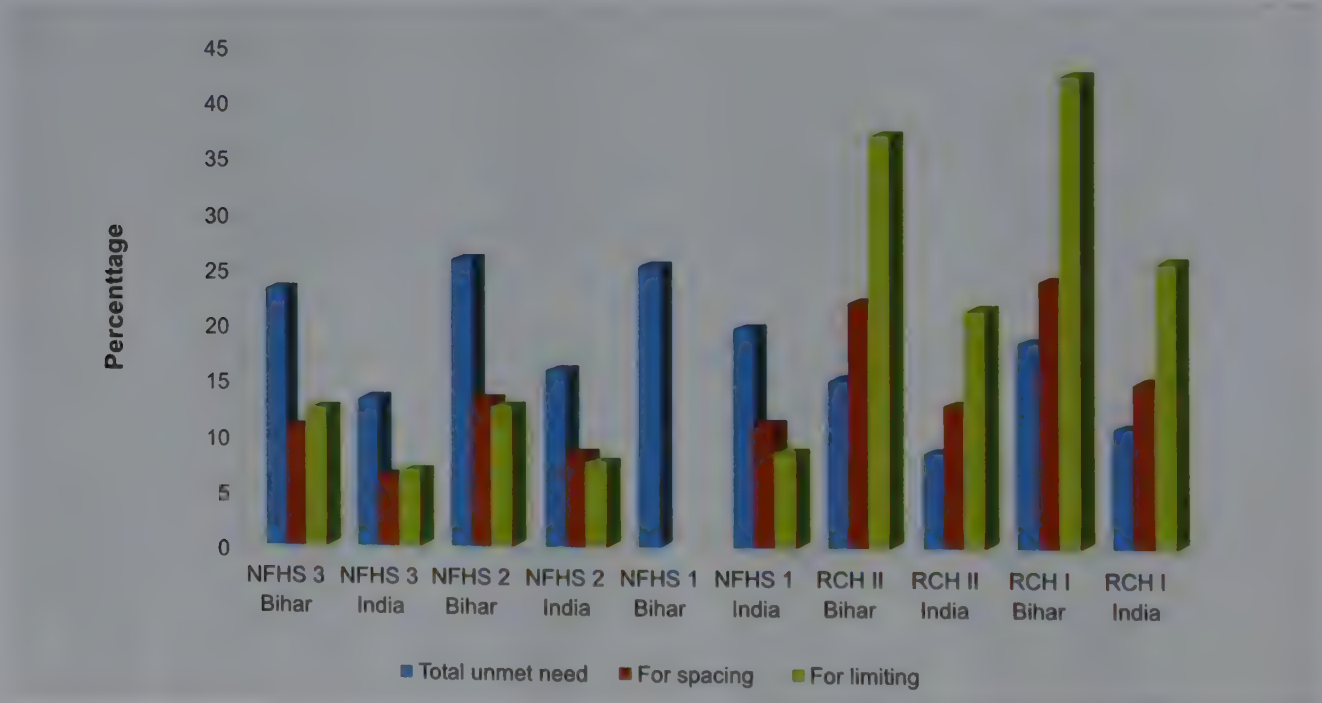
Unmet Need

The low levels of use of family planning methods are reflected in the high unmet need for family planning services in the state. Total unmet need for family planning is very high in the state (23.1%) as compared to 13.2% for India in NFHS-3, though unmet need has marginally reduced from 25.7% in NFHS-2 to 23.1% in NFHS-3. The demand for spacing and limiting has also decreased across the three NFHS surveys and RCH surveys (see Table 3.40 and Figure 3.37). This could be on account of increased access to family planning surveys in the state. Total wanted fertility rate in Bihar as per NFHS-3 is 2.4 as compared to 1.9 for India. This is almost half the TFR of Bihar, which is 4.0.

Table 3.40. Unmet Need for Family Planning, Bihar and India NFHS data (%)

Unmet need	NFHS-3 (2005-06)		NFHS-2 (1998-99)		NFHS-1 (1992-93)		RCH-2		RCH-1	
	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India
Total	23.1	13.2	25.7	15.8	25.1	19.5	36.7	21.1	42.0	25.3
For spacing	10.7	6.3	13.1	8.3	NA	11.0	14.9	8.5	18.3	10.7
For limiting	12.4	6.8	12.5	7.5	NA	8.5	21.8	12.7	23.7	14.6

Figure 3.37. Unmet need of contraception, Bihar and India (NFHS and RCH data)



Achievements in Family Planning

TFR in India has shown a consistent decline since independence but the states of Bihar, Uttar Pradesh, Rajasthan and Madhya Pradesh, which account for over half of the country's population, continue to have high fertility. NFHS-2 indicates that the number of unwanted births account for one-fourth of TFR. If there could be intervention in regard to these unwanted births TFR would

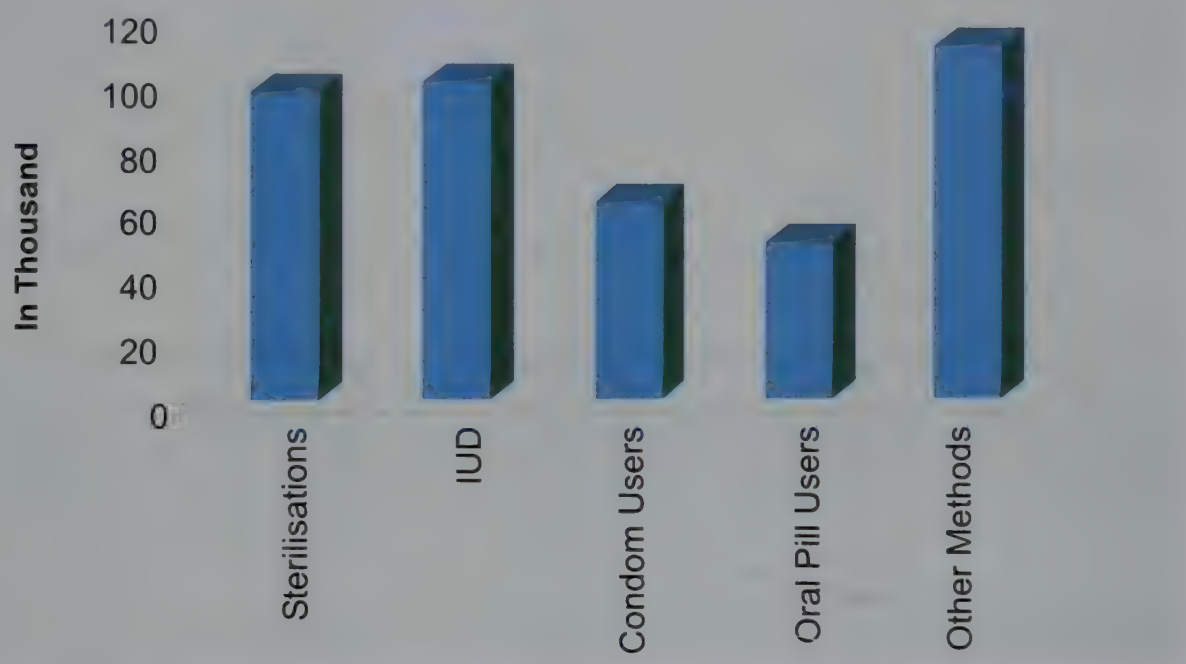
fall to 3 for Bihar. This would also promote maternal and child survival. The achievements of the state in promoting various methods of family planning services over the past five years are presented in Table 3.41 and Figure 3.38.

Table 3.41. Achievements of the State of Bihar in Family Planning, 2000-01 to 2005-06

	Sterilizations	IUD	Condom Users	Oral Pill Users	Other Methods
2000-01	130550	110949	36570	58997	95567
2001-02	152219	145310	63065	84105	147170
2002-03	111924	158896	63043	67938	130981
2003-04	120899	126882	37329	51051	88380
2004-05	88126	108168	241638	456853	698491
2005-06	96341	99847	61965	49818	111783

Source: Family Welfare Statistics in India, 2006, Ministry of Health and Family Welfare, Government of India.

Figure 3.38. Achievement in family planning, Bihar, 2006



Source: Table 3.41.

Table 3.42 presents data for selected family planning methods in Bihar for 2001-02 to 2004-05. It is seen from the table that the number of tubectomy operations completely overshadow the number of vasectomy operations. Women in the age group of 25–29 years are among the maximum acceptors of the method (41.6%). The high level of acceptance of methods in which the responsibility devolves entirely on women reflects the fact that the entire focus of the family planning and RH programme in the state places the responsibility of fertility reduction on women, particularly in their early reproductive age. The state has a long way to go towards building awareness and promoting other methods of family planning, such as Non-Scalpel Vasectomy NSV and other spacing methods. Table 3.43 and Figure 3.39 present data on effective CPR methods in the state.

Table 3.42. Selected Family Planning Methods, Bihar, 2001–05

	2001-02	2002-03	2003-04	2004-05
Total Vascetomy acceptors	482	599	n.a.	n.a.
Acceptors of tubectomy 25–29years (%)	41.6	n.a.	30.7	n.a.
Acceptors of tubectomy 30–34 years (%)	32.3	n.a.	20.5	n.a.
Acceptors of IUD 25–29 years (%)	53	0	30.5	n.a.
Acceptors of IUD 30–35 years (%)	41.2	0	40.5	n.a.
MTP cases up to 12 weeks (%)	n.a.	62.7	82	80.1

Source: *Family Welfare Statistics in India, 2006,* Ministry of Health and Family Welfare, Government of India.

Table 3.43. Effective CPR due to All Methods, Bihar, 2001 to 2005

Year	2001	2002	2003	2004	2005
Bihar	17.4	17.3	17.3	15.2	16.6

Source: *Family Welfare Statistics in India, 2006,* Ministry of Health and Family Welfare, Government of India.

Infertility

In the last forty years India's growing concern with population stabilization has unfortunately overlooked some other closely related problems of human reproduction, which can in their own way seriously compromise the quality of life. *Infertility* has found no place in either our family welfare programme or in the reproductive and child health package.

Maternal Health

Table 3.44 reflects the poor status of maternal health determinants in Bihar across the three NFHS surveys. The following indicators may be noted from the data available.

Table 3.44. Status of Maternal Health Determinants in Bihar (%)

Maternity care (for births in the last three years)	NFHS-3 (2005-06)		NFHS-2 (1998-99)		NFHS-1 (1992-93)		RCH-II		RCH-I	
	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India
Any ANC	n.a.	n.a.	36.3	65.4	36.8	62.3	37.9	73.4	29.7	65.3
Mothers who has at least 3 ANC visits for their last birth	16.9	50.7	15.9	44.2	n.a.	43.9	19.6	50.0	17.1	44.2
Mothers who consumed IFA for 90 days or more when they were pregnant with their last child	9.7	22.3	n.a.	n.a.	n.a.	n.a.	8.1	20.4	16.9	48.7
Birth assisted by doctor/nurse/ LHV/ANM/other health personnel Institutional births	30.9 22.0	48.3 40.7	24.8 14.8	42.4 33.6	n.a. n.a.	32.0 26.1	8.5 23.0	7.1 40.5	2.6 14.9	8.0 34.0
Safe delivery	n.a.	n.a.	23.3	42.3	18.9	34.2	29.5	47.6	19.0	40.2
Mothers who received post-natal care from doctor/nurse/LHV/ANM/ other health personnel within 2 days of delivery for their last birth	15.3	36.4	n.a.	n.a.	n.a.	n.a.				

- There has been a marginal increase in percentage of women with 3 ANCs for first birth in the state across the three surveys.
- Only 16.9% of women had 3 ANC visits for first birth (India 50.7%) in NFHS-3.
- Only 9.7% of women consumed IFA tablets in the state (India to 22.3%) in NFHS-3.
- Only 30.9% of births were assisted by skilled personnel (including doctor) in the state (India to 48.3%) in NFHS-3.
- The level of institutional delivery is low in the state at 22% (India to 40.7%) in NFHS-3.
- There is significantly low level of post-natal care in the state (15.3%) as compared to the country as a whole (36.4%) in NFHS-3.

To reduce the level of maternal deaths, attention is required on three major components, namely, ensuring services through the pregnancy period including emergency obstetric care, ensuring safe delivery through skilled assistance, and proper post-natal care. One indicator of good maternal health is to ensure reduced emergency risks in pregnancy and delivery. Completion of full ANC ensures that the woman is provided with adequate amount of iron and folic acid tablets and is regularly checked by skilled health personnel for the duration of her pregnancy. The state has the lowest levels of full ANC, i.e. 5.4%, in RCH-II, which implies that most women lack access to regular institutional healthcare during the course of pregnancy. Coupled with very high levels of home delivery, this is a matter of concern. As per RCH-II data, 76.8% of deliveries in the state are conducted at home, primarily by TBA. This falls far short of the NRHM goal of ensuring that every pregnant woman delivers in an institution. The high levels of home delivery reflect the lack of functional first contact care, poor status of referral units, and poor levels of social mobilization and awareness generation by community health workers.

Figure 3.40 presents ANC figures for the state and the country as a whole. One cause for the low ANC rate in Bihar is that most of the women concerned, about two-thirds, did not consider having a check-up necessary or customary. The remaining one-third reported financial cost as the main reason. Very few cited lack of knowledge as the main reason. A small significant number cited as reason that their families did not approve of such check-ups. This suggests the need for dissemination of information. Lowering the cost and making the service more accessible would also improve ANC in the state.

Figure 3.40. Any ANC, Bihar and India, NFHS and RCH data

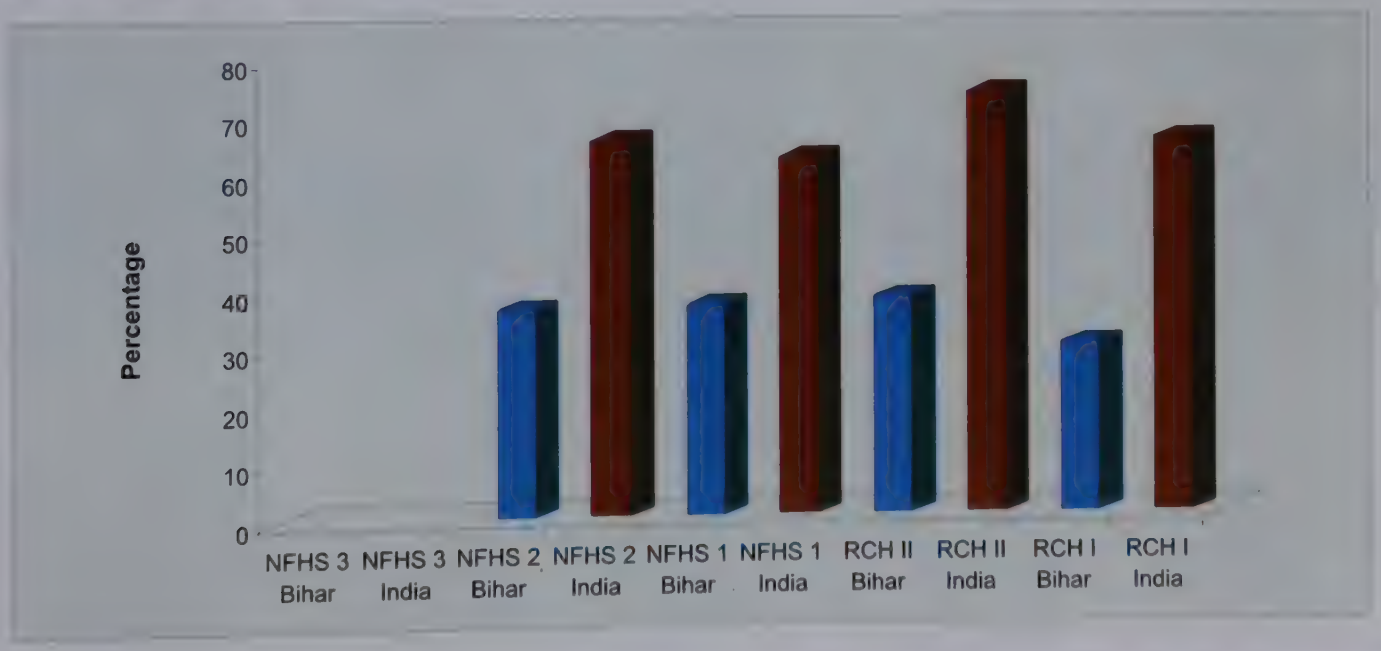


Table 3.45 presents disaggregated data for ANC for both Bihar and India, 2005. It may be noted from the data that ANC coverage in the state in rural areas is only half that of the urban. A similar low level of coverage is seen for SC/ST. Only 33.6% women received IFA tablets but only 2.1% consumed the tablets. This indicates the low health-seeking behaviour of rural Bihar and low levels of awareness. A dismal 2.1% rural women received full ANC, which correlates with the high unmet need in the state. Overall, the state lags far behind in the national average in coverage of services: awareness level of ANC services among mothers (Bihar 65.8%, India 73.5%), one or more TT (Bihar 42.4%, India 62.9%), and IFA tablets (Bihar 17.7%, India 33.9%).

Table 3.45. Ante-natal Care, Bihar and India, 2005

		Bihar				India			
		Rural	Urban	Total	SC/ST	Rural	Urban	Total	SC/ST
ANC	One or more	33.3	67.3	36.8	n.a.	66.7	89.4	75.0	n.a.
	Three or more	11.6	41.7	14.8	7.8	36.7	66.8	47.2	43.0
	First check-up within 12 weeks	62.9	75.4	65.2	n.a.	58.5	67.0	62.0	n.a.
TT	Received one or more TT	78.1	92.4	79.6	74.5	86.5	93.5	89.2	87.1
90+ IFA tablets	Received	33.6	24.2	5.7	4.8	30.1	40.7	33.9	31.3
	Consumed	2.1	11.8	3.2	2.9	15.0	22.5	19.1	17.8
Full ANC	3 or more check-ups + one or more TT + received 90+ IFA tablets	2.1	18.5	3.8	2.0	17.9	34.8	23.6	20.5
	3 or more check-ups + one or more TT + consumed 90+ IFA tablets	0.7	9.5	1.6	2.0	9.6	24.6	14.4	13.0

Source: Coverage Evaluation Report 2005, Government of India.

Table 3.46 presents data for healthcare received in child delivery. It is seen from the table that considerable work needs to be done in the state to increase the proportion of institutional deliveries and post-natal care for the rural and SC/ST segments of the population.

Table 3.46. Healthcare Received in Child Delivery

		Bihar				India			
		Rural	Urban	Total	SC/ST	Rural	Urban	Total	SC/ST
Institutional delivery		16.0	59.2	20.4	10.6	39.7	78.5	53.3	43.8
Home Delivery	Skilled delivery	5.6	17.4	6.4	3.2	9.8	21.0	11.9	10.1
	TBA	81.6	79.1	81.5	n.a.	61.3	59.9	61.3	n.a.
Received PNC		6.4	24.2	8.3	5.1	33.7	64.5	44.2	39.0

Source: Coverage Evaluation Report 2005, Government of India.

Other Female Morbidity

The leading causes of female morbidity in rural areas not linked to pregnancy are non-specific fever, acidity, serious communicable diseases such as TB and malaria, respiratory infections, eye/ear problems, diarrhoeal diseases, weakness, dizziness, breathing problems and anaemia. Urban

women face, in addition, high blood pressure, heart ailments, and paralysis. Health problems such as lack of nutrition, anaemia among married and pregnant women, RTI/STI and HIV/AIDS prevalence have been discussed earlier. Women also face various gynaecological morbidities such as menstrual problems, excessive discharge, vaginitis, cervical erosion, and pelvic inflammatory diseases.

Women's Empowerment

It is important to note that women's health-seeking behaviour and the determinants of their access to timely and quality healthcare are linked to their socio-cultural status such as status in society, role, function and behaviour within households, etc.

It is being increasingly recognized that women's health issues go much beyond maternal morbidity and mortality to include nutrition, child bearing, contraception, abortion, reproductive health, RTI, STI, HIV/AIDS and communicable diseases. As elsewhere, in Bihar also women are affected by many of the same health conditions as men, but experience it differently. This is because of multiple factors such as women's low decision-making power, low mobility, experience of violence, women's low social status, etc.

NFHS-3 shows that in Bihar 84% of currently married women reported that they jointly make decisions related to her earnings, whereas only 63.7% women take joint decisions regarding how their husband's earnings are used. In comparison, only 73.4% of men responded that they and their wives jointly take a decision about her earnings. This lack of space for decision making in economic affairs of the household puts the woman at a disadvantage both in her house and in society despite her status of being employed. A little over 50% of the women in the state said that they take decisions alone or jointly with their husband regarding household purchases, household needs, own healthcare and visits to family and relatives. Only 32.2% of women take decisions regarding all four aspects. Only 41.6% of men responded that their wives should have joint decision making power.

Women's autonomy in the state has a long way to go, as reflected from the figures related to their access to money and cash. NFHS-3 reveals that most women in Bihar have access to cash, with 58.6% of women having money that they can decide how to use. However, only 8.2% of women have a bank account or a savings account which they can operate themselves, thereby limiting their access to the cash. Most women in the state (73%) are not aware of micro-credit programmes and only 1% of women have taken a loan from a micro-credit programme. Only 25.2% of women in the state have mobility since most of the decisions regarding women stepping out of the house are taken by the men.

As regards attitude towards wife beating and violence NFHS-3 shows that 56.9% women age 15–49 in the state agree that husbands beating wives is justified. A similar percentage of men (57.4%) believe the same. In comparison, 67.6% of women feel that it is all right for the wife to refuse sexual intercourse with the husband if she knows that he has a sexually transmitted disease, knows that he has sex with other women or if she is tired and not in the mood. Only 6.1% of men agree that women have a right to refuse sex for these reasons and 28.4% of men approve of the husband reprimanding the wife for refusing to have sex, with 15.1% of the men approving of use of force to have sex with their wives. Such attitude approving of force is the highest in the state. NFHS-3 statistics for the various forms of domestic violence experienced by women age 15–49 in

the state are as follows: physical violence only, 38.9% (the highest in the country); sexual violence only, 2.9%; physical and sexual violence, 13.8%; physical or sexual violence, 55.6% (the highest in the country); and emotional violence, 19.7%.

It should be clear from the preceding statistics that some of the social realities of women in Bihar are their economic dependence, lack of influence in decision making, their experience of violence and the negative attitude of men. Added to these are poverty, lack of food and inequitable distribution of food for girls and women in the household, inadequate access to safe drinking water and sanitation facilities, which additionally impact on women's health.

Child Health

Immunization

The status of infant and child mortality in the state has been highlighted earlier. The present discussion is about immunization, childhood disease treatment, knowledge of diarrhoea treatment, and child feeding practices. The Expanded Immunization Programme (EIP), launched in the country in 1978, followed by the Universal Immunization Programme (UIP) in 1985, sought to protect all infants and children in the country against preventable diseases and deaths. Strengthening routine immunization was seen as the cornerstone of the endeavour to reduce infant and child mortality.

With 158,000 deaths occurring annually, Bihar contributes about 9.9% of infant deaths in the country. In 2001 the state contributed 2.6 million non-immunized children to the pool of susceptible children, the second largest in India (estimate from 2001 Coverage Survey by UNICEF/WHO and 2001 census). Bihar is among the few states where the performance of Routine Immunization Programme also continues to be significantly below the national average. The 2001-02 *Coverage Evaluation Survey* indicated that full immunization coverage level among children in Bihar was only 13%. BCG coverage level was at 39%, indicating poor access and utilization of immunization services. Coverage levels for DPT3, OPV3, measles and vitamin A were at 21.1, 21.1, 13.8, and 11.1%, respectively. District Level Rapid Household Survey (DRHS), performed in 30 districts in Bihar in 1998-99 and again in 2002-03, showed that full immunization rates have decreased in 11 districts. These findings indicate a strong need for focusing greater efforts on strengthening immunization in the state.

The stagnating routine immunization coverage rates, high drop-out rates and declining trend in some of the districts in Bihar are issues of major concern (see Table 3.47). The indirect indicator for reach of services, i.e. BCG and the acceptance of services (DPT) shows a drop of approximately 20%. This drop needs to be addressed to improve routine immunization and subsequently child survival.

Table 3.47. Immunization Coverage in Bihar (%)

Antigen	DRHS 1998-99	NFHS-2 1998-99	CES 2001	CES 2005	DLHS 2002–04	Reported Coverage 2003-04*	NFHS-3 Coverage 2005-06	Reported Coverage 2004-05
Fully vaccinated	22.4	11	13	19.0	23	n.a.	32.8	n.a.
BCG	40.8	38	39	52.8	44	50	64.7	58
DPT3	34.9	24	21	36.5	33	44	46.1	40
Measles	25.6	17	14	28.4	26	30	40.4	37
Three Doses of Polio	37.4	41	n.a.	n.a.	34.3	n.a.	82.4	n.a.
Drop-out: BCG, Measles	n.a.	21	25	n.a.	18	20	n.a.	21

Source: Data for reported coverage 2004-05 from Bihar State Demographic Cell and Bihar State Immunization Cell.

According to NFHS-3 data, the state has achieved significant improvement in immunization coverage. The coverage of full immunization has gone up to 32.8%, which is approximately 19.8% more than the NFHS-1 coverage (11%). Improvement is seen for the entire range of measles, Polio3, DPT3 and BCG. Table 3.48 presents data for immunization status by residence and among the SC/ST segment of the population in Bihar and India for 2005.

Table 3.48. Immunization Status by Residence and among SC/ST in Bihar and India, 2005

Antigen	Bihar				India			
	Rural	Urban	Total	SC/ST	Rural	Urban	Total	SC/ST
BCG	51.2	66.5	52.8	47.0	79.1	90.7	83.4	83.7
DPT 3	35.0	49.8	36.5	28.0	60.6	79.6	67.3	65.7
OPV 3	25.7	38.8	27.1	19.9	54.4	73.9	61.3	57.0
Measles	26.4	45.5	28.4	21.3	61.8	79.4	68.1	66.7
Full Immunization	17.6	30.6	19.0	14.2	47.4	67.8	54.5	52.7
Vitamin A	31.0	31.6	31.0	31.9	51.4	58.9	54.0	56.4
Pulse Polio	99.0	99.5	99.1	n.a.	94.8	95.1	94.0	n.a.

Source: Coverage Evaluation Survey, 2005.

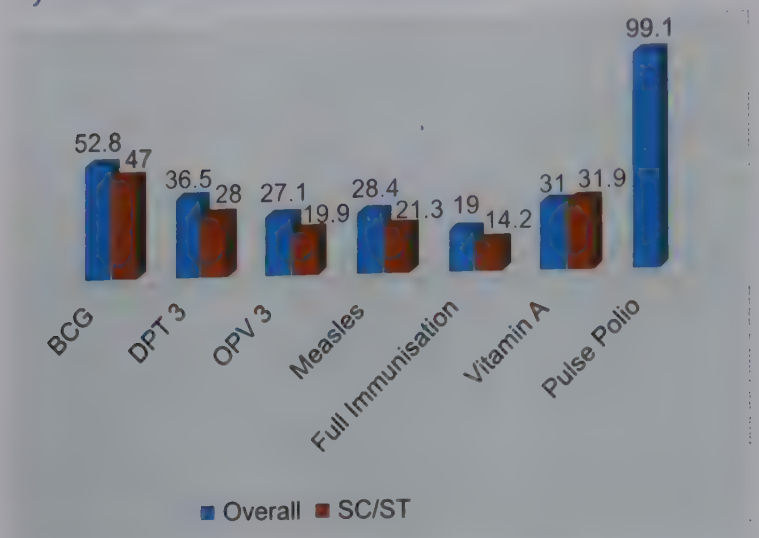
The coverage of immunization and the method of sterilization by auto disabled (AD) syringes in Bihar is extremely low. As against 2% coverage of type of syringes for immunization and sterilization for India, the coverage rate is only 1.7% in Bihar as per CES 2005. Although disposable syringe coverage rate is high in the state (88.6%) there needs to be increased coverage for AD syringes to check reuse. Currently, 50% of syringes are reused in the country. Table 3.49 presents data for syringe use in 2005. Tables 3.50 and 3.51 present data on the achievement of the immunization programme in the state. Figure 3.41 presents the data of Tables 3.48, 3.50 and 3.51 graphically.

Table 3.49. Coverage of Type of Syringes used for Immunization and Method of Sterilization, Bihar and India

		Bihar	India
Total	Glass	4.6	9.9
	Disposable	88.7	70.1
	AD	1.7	2.0
Rural	Glass	4.8	10.4
	Disposable	88.6	70.1
	AD	1.9	1.5
Urban	Glass	3.6	9.2
	Disposable	89.7	70.0
	AD	0.7	2.8

Source: Coverage Evaluation Survey, 2005.

Figure 3.41. Immunization coverage in Bihar: (a) progress; (b) compared with all-India level; (c) by residence; (d) among SC/ST



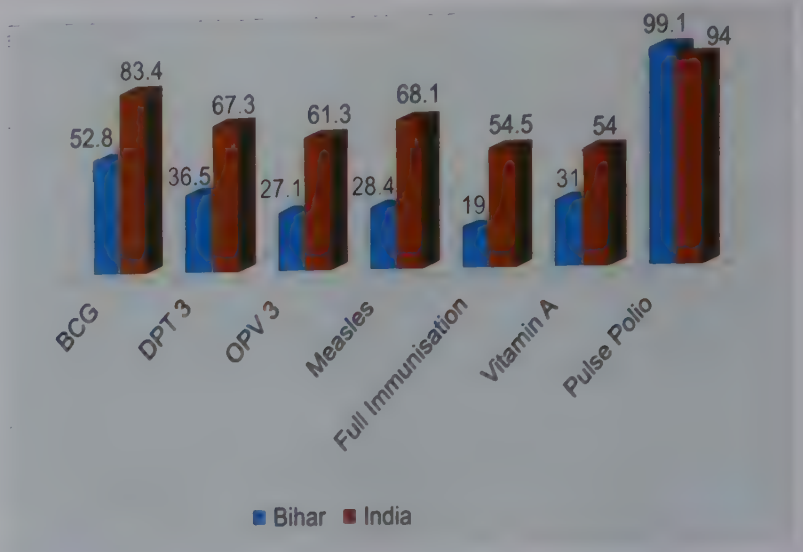


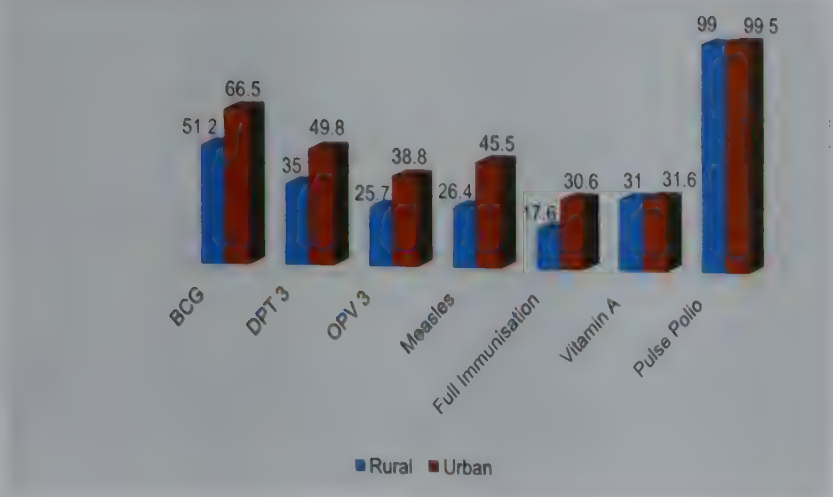
Table 3.50. Child Immunization and Vitamin A Supplementation, Bihar and India (%)

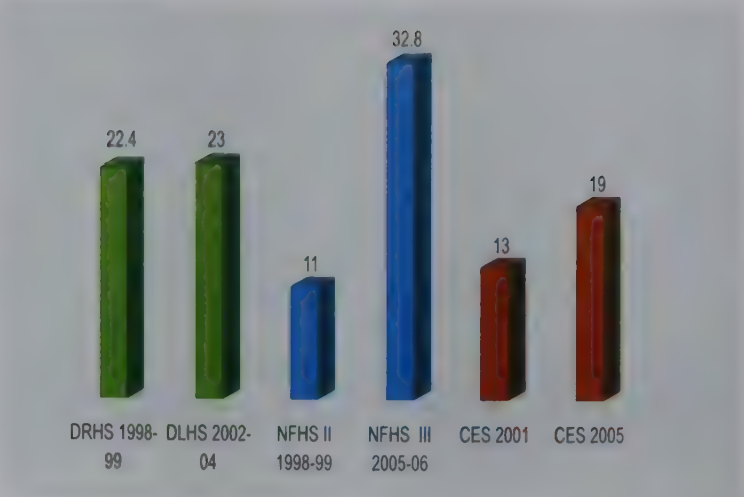
	NFHS-3 (2005-06)		NFHS-2 (1998-99)		RCH-II		RCH-I	
	Bihar	India	Bihar	India	Bihar	India	Bihar	India
Children 12-13 months fully immunized (BCG, measles, and 3 doses each of polio/DPT	32.8	28.4	11.6	42.0	23.0	45.8	22.4	54.2
Children 12–23 months who have received BCG	64.7	57.7	36.0	71.6	47.3	75.0	40.8	73.0
Children 12–23 months who have received 3 doses of polio vaccine	82.4	55.8	42.2	62.8	33.2	57.2	37.4	68.0
Children 12–23 months who have received 3 doses of DPT vaccine	46.1	39.9	24.9	55.1	33.8	58.2	34.9	6.1
Children 12–23 months who have received measles vaccine	40.4	38.3	16.2	50.7	26.9	56.0	25.6	60.4
Children 12–35 months who received a Vitamin A dose in last 6 months	29.4	17.4	n.a.	n.a.	9.6	31.1	7.3	35.0
Children 12–13 months with no immunization					49.4	19.8	48.8	18.8

Table 3.51. Achievement in Immunization (%)

Period	TT	DPT	Polio (III dose)	BCG (Below 1 year)	Measles (Below 1 year)	DT	TT 10 years	TT 16 years
2000-01	26.2	42.7	44	58.9	37.4	111.9	54.4	45.5
2001-02	43.4	63.5	65.1	83.4	51.1	31.8	14.1	12.4
2002-03	39.5	58.8	60	77.3	48.7	28.1	15	12.2
2003-04	33.1	45.2	48.9	70.7	30.7	23	15.4	12.7
2004-05	28.7	48.4	48.8	69	43.3	33.6	13.4	12.2
2005-06	27.5	55.2	51.8	82.5	50.7	60.5	19.3	14.9

Source: Coverage Evaluation Survey, 2005.





Immunization coverage in the state is very poor, with services in poor condition. In terms of awareness about immunization the state lags far behind all-India levels, especially among the rural and SC/ST segments. However, it needs to be recognized that the achievements have been under very difficult working conditions. Data for distance of the nearest place for immunization show that 68.1% of sub-centre and urban health posts in the state are within 2 km of residence from the nearest place for immunization (India 84.2%), which is a positive feature reflecting the high level of commitment of staff especially at the lower level, despite major constraints. Instead of viewing immunization as a programme which has been imposed, Bihar as a high-focus state needs to give increased attention to the programme through decentralization in authority and decision making. There needs to be emphasis on problem solving at district and block level. The state needs to effectively utilize the vast number of human resources available at the community level through other programmes such as ICDS.

Various assessments performed by several agencies over the last few years, including the UIP review done in Bihar, have identified critical problems in the immunization system. These are well known, and include low capacity to supervise, monitor and implement micro-plans at district level; lack of effective vaccine distribution to immunization sites; ageing and poorly maintained cold chain; lack of adequately trained human resources; low managerial and support capacity at the state and district immunization units; and weak management of fund flows.

Childhood Diseases and Treatment

Acute respiratory infection (ARI) is a leading cause of childhood morbidity and mortality, along with diarrhoea. Bihar has a prevalence of 6.8% for ARI symptoms as per NFHS-3, in comparison to 5.8% for India. 70.2% children under five years with symptoms of ARI sought treatment from a health facility or provider and 13.5% received antibiotics. Tables 3.52 and 3.53 present data for treatment of childhood diseases and knowledge of diarrhoea management.

Table 3.52. Treatment of Childhood Diseases (Children under 3 years) (%)

	NFHS-3 (2005-06)		NFHS-2 (1998-99)		NFHS-1 (1992-93)	
	Bihar	India	Bihar	India	Bihar	India
Children with diarrhoea in the last 2 weeks who received ORS	22.4	33.5	13.8	26.9	12.7	17.8
Children with diarrhoea in the last 2 years taken to a health facility	48.7	37.9	58.9	65.3	n.a.	61.9
Children with acute respiratory infection or fever in the last 2 weeks taken to a health facility	54.6	43.6	n.a.	n.a.	n.a.	n.a.

Table 3.53. Knowledge of Diarrhoea Management and Treatment (%)

	RCH-II		RCH-I	
	Bihar	India	Bihar	India
Women aware of diarrhoea management	67.2	64.7	64.4	66.1
Women aware of ORS	22.3	27.6	25.3	29.7
Women whose child suffered from diarrhoea and treatment was sought	84.6	73.0	3.7	13.2
Children with diarrhoea who were treated with ORS	14.2	29.7	8.6	11.2

Sexually Transmitted Infections

Sexually transmitted infections (STIs) is a co-factor for HIV transmission. Early diagnosis and treatment of STIs is important in increasing awareness on HIV/AIDS awareness and prevention of HIV. NFHS 3 shows that in India 11% of women and 5% of men who have ever had sex had an STI or STI symptom. The state-level figures reflect that Bihar, Assam, Madhya Pradesh, Tripura and Rajasthan have STI prevalence of 15% and higher. In Bihar STI prevalence among women is 2.8% and 0.4% among men.

4

District Health Profile and Ranking of Districts

State averages can be misleading because broad aggregates mask the disparities and variations which exist between districts. Health needs across the districts also vary. Constraints to effective service delivery also differ between districts, as do opportunities for overcoming these constraints.

At the national and state level there are a number of indicators available through census, sample registration systems, NFHS and RCH survey, etc. The 73rd and 74th amendments to the Constitution have brought about decentralized planning and programme implementation, thereby making the district the focus. The district has now become the critical unit of planning and programme implementation. However, the data base for district-level planning has been inadequate and limited. Realizing the need for data at the district level, the International Institute of Population Sciences (IIPS), Mumbai, conducted the DRHS 1998-99 and DLHS in 2002-04 as part of the RCH Programme of the Ministry of Health and Family Welfare, Government of India.

DRHS 1998-99 for the first time provided a set of key reproductive and child health indicators along with the Provisional Census 2001 for the district. The integration of DRHS 1998-99 and Provisional Population Results of the Census of India, 2001, provided the basis for the first composite socio-demographic development index, which was computed by IIPS in 2002.

The India Socio-demographic Development Index, published by Population Foundation of India, is based on similar indices used by IIPS to compare and assess the overall development of 593 districts in India in the last five years. The computation by PFI is an integration of DLHS 2002-04 and the Final Population results, Census of India, 2001.

The ensuing sections present

1. District Health Profile,

2. Ranking of Districts by Demographic and key RCH indicators, and

3. Composite Socio-Demographic Development Index.

ARARIA

General information
Area (sq km): 2830 As proportion of state's area: 3.0%
Community Development Blocks: 9 Towns: 3 Villages: 783

Demographic particulars (Census, 2001)

Population	Persons	2158606
	Males	1128105
	Females	1030503
	Rural (%)	93.9
	Urban (%)	6.1
	Scheduled Castes (%)	13.6
	Scheduled Tribes (%)	1.4
	Young people (10–24 years) (%)	28.5
	Elderly population (60+ years) (%)	5.4
	Decadal growth rate, 1991–2001 (%)	33.9
	Population density (per sq km)	763

Sex Ratio (females per 1000 males)	1991	907
	2001	913
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	986
	2001	963
Literacy rate (7+)	Persons	35.0
	Males	46.4
	Females	22.4
Work participation rate	Total	39.5
	Female	25.8
Household amenities	Households with kutchha houses (%)	74.6
	Households with safe drinking water (%)	98.7
	Households with electricity connection (%)	10.3
Vital rates	Crude Birth Rate	36.2
	Total Fertility Rate	4.9
	Infant Mortality Rate	71
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	50.5
	Birth order 3 + (%)	56.3
	Current use of any FP Method (%)	31.2
	Total unmet need (%)	38.0
	Pregnant women with any ANC (%)	34.2
	Pregnant women with 3+ ANCs (%)	12.0
	Pregnant women received IFA tablets (%)	4.8
	Safe delivery (%)	20.6
	Institutional delivery (%)	9.1
	Children with full immunization (%)	19.6
Communicable Diseases	Kala-azar prevalence (%)	5.4
	TB incidence (%)	3.2
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	91.9
	Aware of HIV/ AIDS (%)	19.2
Health Infrastructure	CHCs	3
	PHCs	39
	Sub-Centres	200

AURANGABAD

General information
Area (sq km): 3305 As proportion of state's area: 3.5%
Community Development Blocks: 11 Towns: 5 Villages: 1828

Demographic particulars (Census, 2001)

Population	Persons	2013055
	Males	1040945
	Females	972110
	Rural (%)	91.6
	Urban (%)	8.4
	Scheduled Castes (%)	23.5
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	30.3
	Elderly population (60+ years) (%)	7.0
	Decadal growth rate, 1991–2001 (%)	30.7
	Population density (per sq km)	609

Sex Ratio (females per 1000 males)	1991	915
	2001	934
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	970
	2001	943
Literacy rate (7+)	Persons	57.0
	Males	71.1
	Females	41.9
Work participation rate	Total	33.3
	Female	20.2
Household amenities	Households with kutchha houses (%)	14.2
	Households with safe drinking water (%)	83.5
	Households with electricity connection (%)	7.8
Vital rates	Crude Birth Rate	32.3
	Total Fertility Rate	4.3
	Infant Mortality Rate	59
Key RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	45.6
	Birth order 3 + (%)	53.7
	Current use of any FP Method (%)	25.7
	Total unmet need (%)	34.3
	Pregnant women with any ANC (%)	37.8
	Pregnant women with 3+ ANCs (%)	19.9
	Pregnant women received IFA tablets (%)	4.3
	Safe delivery (%)	28.7
	Institutional delivery (%)	21.3
	Children with full immunization (%)	32.6
Communicable Diseases	Kala-azar prevalence (%)	0
	TB incidence (%)	2.5
	HIV + prevalence among STD Clinics	0.5
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	93.0
	Aware of HIV/ AIDS (%)	20.1
Health Infrastructure	CHCs	3
	PHCs	69
	Sub-Centres	207

BANKA

General information
Area (sq km): 3020.0 As proportion of state's area: 3.2%
Community Development Blocks: 11 Towns: 2 Villages: 1737

Demographic particulars (Census, 2001)

Population	Persons	1608773
	Males	843293
	Females	765480
	Rural (%)	96.5
	Urban (%)	3.5
	Scheduled Castes (%)	12.4
	Scheduled Tribes (%)	4.7
	Young people (10–24 years) (%)	28.3
	Elderly population (60+ years) (%)	6.8
	Decadal growth rate, 1991–2001 (%)	24.5
	Population density (per sq km)	533

Sex Ratio (females per 1000 males)	1991	893
	2001	908
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	969
	2001	965
Literacy rate (7+)	Persons	42.7
	Males	55.3
	Females	28.7
Work participation rate	Total	39.6
	Female	28.2
Household amenities	Households with kutchha houses (%)	48.6
	Households with safe drinking water (%)	49.9
	Households with electricity connection (%)	4.7
Vital rates	Crude Birth Rate	33.8
	Total Fertility Rate	4.8
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	56.0
	Birth order 3 + (%)	54.4
	Current use of any FP Method (%)	36.9
	Total unmet need (%)	31.0
	Pregnant women with any ANC (%)	38.5
	Pregnant women with 3+ ANCs (%)	24.1
	Pregnant women received IFA tablets (%)	8.5
	Safe delivery (%)	36.4
	Institutional delivery (%)	25.4
	Children with full immunization (%)	25.6
Communicable Diseases	Kala-azar prevalence (%)	0.02
	TB incidence (%)	1.1
	HIV + prevalence among STD Clinics	0.7
	HIV + prevalence among ANC Clinics	0.4
Women's Health Awareness	Aware of RTI/ STI (%)	98.8
	Aware of HIV/ AIDS (%)	22.7
Health Infrastructure	CHCs	3
	PHCs	34
	Sub-Centres	227

BEGUSARAI

General information
Area (sq km): 1918 As proportion of state's area: 2.0%
Community Development Blocks: 18 Towns: 2 Villages: 815

Demographic particulars (Census, 2001)

Population	Persons	2349366
	Males	1228874
	Females	1120492
	Rural (%)	95.4
	Urban (%)	4.6
	Scheduled Castes (%)	14.5
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	30.7
	Elderly population (60+ years) (%)	6.2
	Decadal growth rate, 1991–2001 (%)	29.5
	Population density (per sq km)	1225

Sex Ratio (females per 1000 males)	1991	898
	2001	912
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	961
	2001	946
Literacy rate (7+)	Persons	48.0
	Males	59.1
	Females	35.6
Work participation rate	Total	31.8
	Female	15.9
Household amenities	Households with kutchha houses (%)	18.7
	Households with safe drinking water (%)	89.2
	Households with electricity connection (%)	16.8
Vital rates	Crude Birth Rate	34.0
	Total Fertility Rate	4.8
	Infant Mortality Rate	62
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	50.6
	Birth order 3 + (%)	52.6
	Current use of any FP Method (%)	27.6
	Total unmet need (%)	41.3
	Pregnant women with any ANC (%)	33.5
	Pregnant women with 3+ ANCs (%)	18.3
	Pregnant women received IFA tablets (%)	4.8
	Safe delivery (%)	28.7
	Institutional delivery (%)	15.7
	Children with full immunization (%)	21.4
Communicable Diseases	Kala-azar prevalence (%)	1.4
	TB incidence (%)	2.3
	HIV + prevalence among STD Clinics	0.5
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	92.8
	Aware of HIV/ AIDS (%)	26.8
Health Infrastructure	CHCs	2
	PHCs	42
	Sub-Centres	288

BHAGALPUR

General information
Area (sq km): 2569 As proportion of state's area: 2.7%
Community Development Blocks: 16 Towns: 5 Villages: 1052

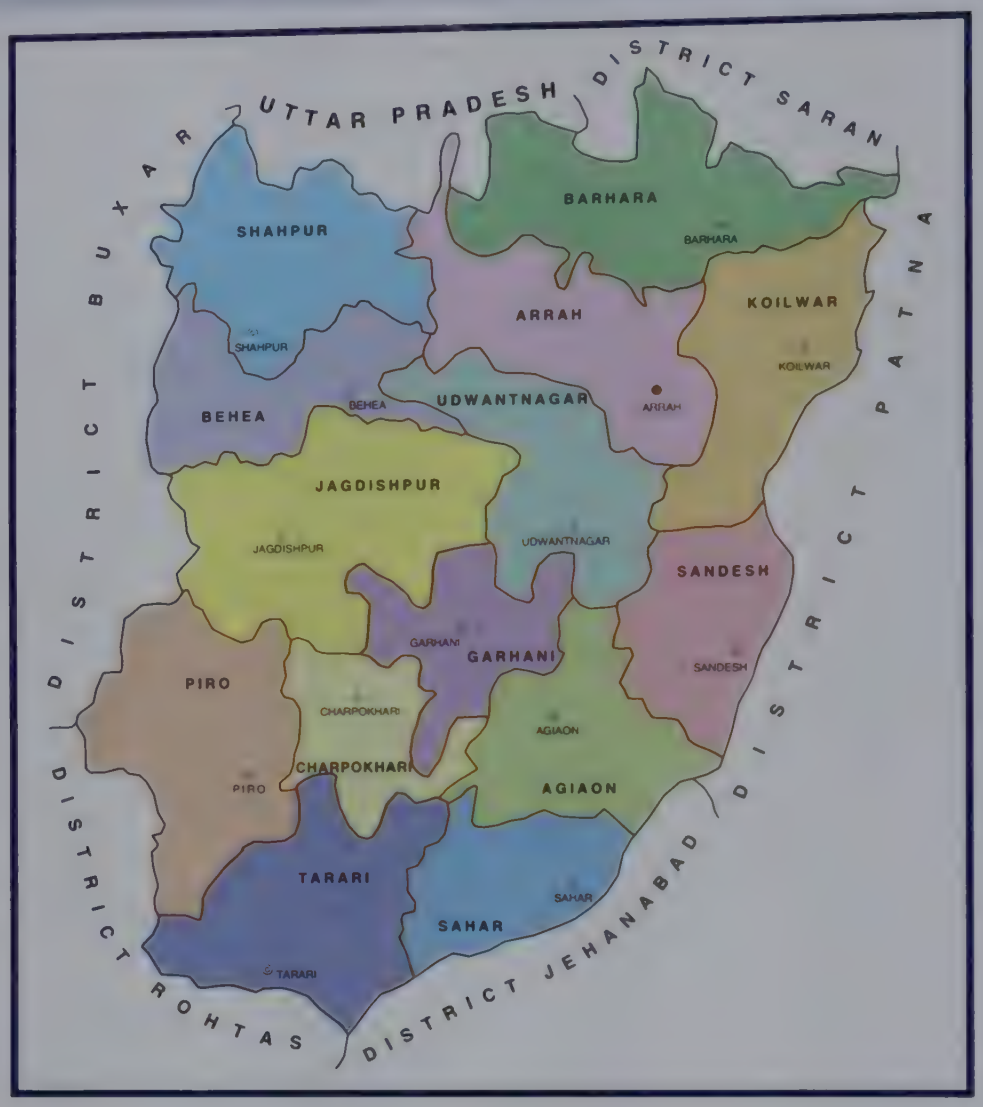
Demographic particulars (Census, 2001)

Population	Persons	2423172
	Males	1291658
	Females	1131514
	Rural (%)	81.3
	Urban (%)	18.7
	Scheduled Castes (%)	10.5
	Scheduled Tribes (%)	2.3
	Young people (10–24 years) (%)	30.4
	Elderly population (60+ years) (%)	6.7
	Decadal growth rate, 1991–2001 (%)	26.9
	Population density (per sq km)	943

Sex Ratio (females per 1000 males)	1991	864
	2001	876
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	944
	2001	966
Literacy rate (7+)	Persons	49.5
	Males	59.2
	Females	38.1
Work participation rate	Total	35.3
	Female	21.4
Household amenities	Households with kutchha houses (%)	28.7
	Households with safe drinking water (%)	69.6
	Households with electricity connection (%)	19.1
Vital rates	Crude Birth Rate	31.9
	Total Fertility Rate	4.5
	Infant Mortality Rate	62
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	42.6
	Birth order 3 + (%)	51.9
	Current use of any FP Method (%)	39.6
	Total unmet need (%)	33.1
	Pregnant women with any ANC (%)	48.5
	Pregnant women with 3+ ANCs (%)	27.9
	Pregnant women received IFA tablets (%)	7.7
	Safe delivery (%)	41.6
	Institutional delivery (%)	29.2
	Children with full immunization (%)	42.8
Communicable Diseases	Kala-azar prevalence (%)	0.7
	TB incidence (%)	3.4
	HIV + prevalence among STD Clinics	0.2
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	98.9
	Aware of HIV/ AIDS (%)	38.1
Health Infrastructure	CHCs	2
	PHCs	57
	Sub-Centres	280

BHOJPUR

General information
Area (sq. km): 2474 As proportion of state's area: 2.6%
Community Development Blocks: 14 Towns: 6 Villages: 1129



Demographic particulars (Census, 2001)

Population	Persons	2243144
	Males	1179611
	Females	1063533
	Rural (%)	86.1
	Urban (%)	13.9
	Scheduled Castes (%)	15.3
	Scheduled Tribes (%)	0.4
	Young people (10–24 years) (%)	30.7
	Elderly population (60+ years) (%)	7.5
	Decadal growth rate, 1991–2001 (%)	25.1
	Population density (per sq km)	907

Sex Ratio (females per 1000 males)	1991	904
	2001	902
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	924
	2001	940
Literacy rate (7+)	Persons	59.0
	Males	74.3
	Females	41.8
Work participation rate	Total	29.1
	Female	12.6
Household amenities	Households with kutchha houses (%)	6.6
	Households with safe drinking water (%)	91.0
	Households with electricity connection (%)	10.0
Vital rates	Crude Birth Rate	30.1
	Total Fertility Rate	4.2
	Infant Mortality Rate	54
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	55.3
	Birth order 3 + (%)	54.0
	Current use of any FP Method (%)	36.9
	Total unmet need (%)	30.8
	Pregnant women with any ANC (%)	51.3
	Pregnant women with 3+ ANCs (%)	23.5
	Pregnant women received IFA tablets (%)	14.5
	Safe delivery (%)	49.0
	Institutional delivery (%)	37.4
	Children with full immunization (%)	32.3
Communicable Diseases	Kala-azar prevalence (%)	0.3
	TB incidence (%)	2.1
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0.5
Women's Health Awareness	Aware of RTI/ STI (%)	97.1
	Aware of HIV/ AIDS (%)	32.3
Health Infrastructure	CHCs	2
	PHCs	32
	Sub-Centres	284

BUXAR

General information
Area (sq km): 1624 As proportion of state's area: 1.7%
Community Development Blocks: 11 Towns: 2 Villages: 882

Demographic particulars (Census, 2001)

Population	Persons	1402396
	Males	738354
	Females	664042
	Rural (%)	90.8
	Urban (%)	9.2
	Scheduled Castes (%)	14.1
	Scheduled Tribes (%)	0.6
	Young people (10–24 years) (%)	29.8
	Elderly population (60+ years) (%)	7.6
	Decadal growth rate, 1991–2001 (%)	28.9
	Population density (per sq km)	864

Sex Ratio (females per 1000 males)	1991	884
	2001	899
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	905
	2001	925
Literacy rate (7+)	Persons	56.8
	Males	71.9
	Females	39.9
Work participation rate	Total	29.1
	Female	11.9
Household amenities	Households with kutchha houses (%)	9.0
	Households with safe drinking water (%)	87.8
	Households with electricity connection (%)	11.5
Vital rates	Crude Birth Rate	31.7
	Total Fertility Rate	4.4
	Infant Mortality Rate	76
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	59.2
	Birth order 3 + (%)	55.1
	Current use of any FP Method (%)	31.0
	Total unmet need (%)	36.8
	Pregnant women with any ANC (%)	38.2
	Pregnant women with 3+ ANCs (%)	16.6
	Pregnant women received IFA tablets (%)	4.6
	Safe delivery (%)	40.9
	Institutional delivery (%)	30.4
	Children with full immunization (%)	22.0
Communicable Diseases	Kala-azar prevalence (%)	0.1
	TB incidence (%)	1.4
	HIV + prevalence among STD clinics	0
	HIV + prevalence among ANC clinics	0.4
Women's Health Awareness	Aware of RTI/ STI (%)	97.2
	Aware of HIV/ AIDS (%)	23.0
Health Infrastructure	CHCs	0
	PHCs	27
	Sub-Centres	158

DARBHANGA

General information
Area (sq km): 2279 As proportion of state's area: 2.4%
Community Development Blocks: 18 Towns: 1 Villages: 1179

Demographic particulars (Census, 2001)

Population	Persons	3295789
	Males	1722189
	Females	1573600
	Rural (%)	91.9
	Urban (%)	8.1
	Scheduled Castes (%)	15.5
	Scheduled Tribes (%)	0.0
	Young people (10–24 years) (%)	30.1
	Elderly population (60+ years) (%)	6.4
	Decadal growth rate, 1991–2001 (%)	31.3
	Population density (per sq km)	1446

Sex Ratio (females per 1000 males)	1991	911
	2001	914
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	954
	2001	915
Literacy rate (7+)	Persons	44.3
	Males	56.7
	Females	30.8
Work participation rate	Total	31.2
	Female	14.9
Household amenities	Households with kutchha houses (%)	31.7
	Households with safe drinking water (%)	99.0
	Households with electricity connection (%)	8.8
Vital rates	Crude Birth Rate	33.1
	Total Fertility Rate	4.5
	Infant Mortality Rate	74
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	49.8
	Birth order 3 + (%)	56.5
	Current use of any FP Method (%)	31.9
	Total unmet need (%)	40.0
	Pregnant women with any ANC (%)	33.3
	Pregnant women with 3+ ANCs (%)	16.6
	Pregnant women received IFA tablets (%)	6.3
	Safe delivery (%)	25.5
	Institutional delivery (%)	16.9
	Children with full immunization (%)	22.0
Communicable Diseases	Kala-azar prevalence (%)	3.6
	TB incidence (%)	5.1
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0.2
Women's Health Awareness	Aware of RTI/ STI (%)	96.0
	Aware of HIV/ AIDS (%)	38.9
Health Infrastructure	CHCs	2
	PHCs	64
	Sub-Centres	261

GAYA

General information
Area (sq km): 4976 As proportion of state's area: 5.3%
Community Development Blocks: 24 Towns: 5 Villages: 2832

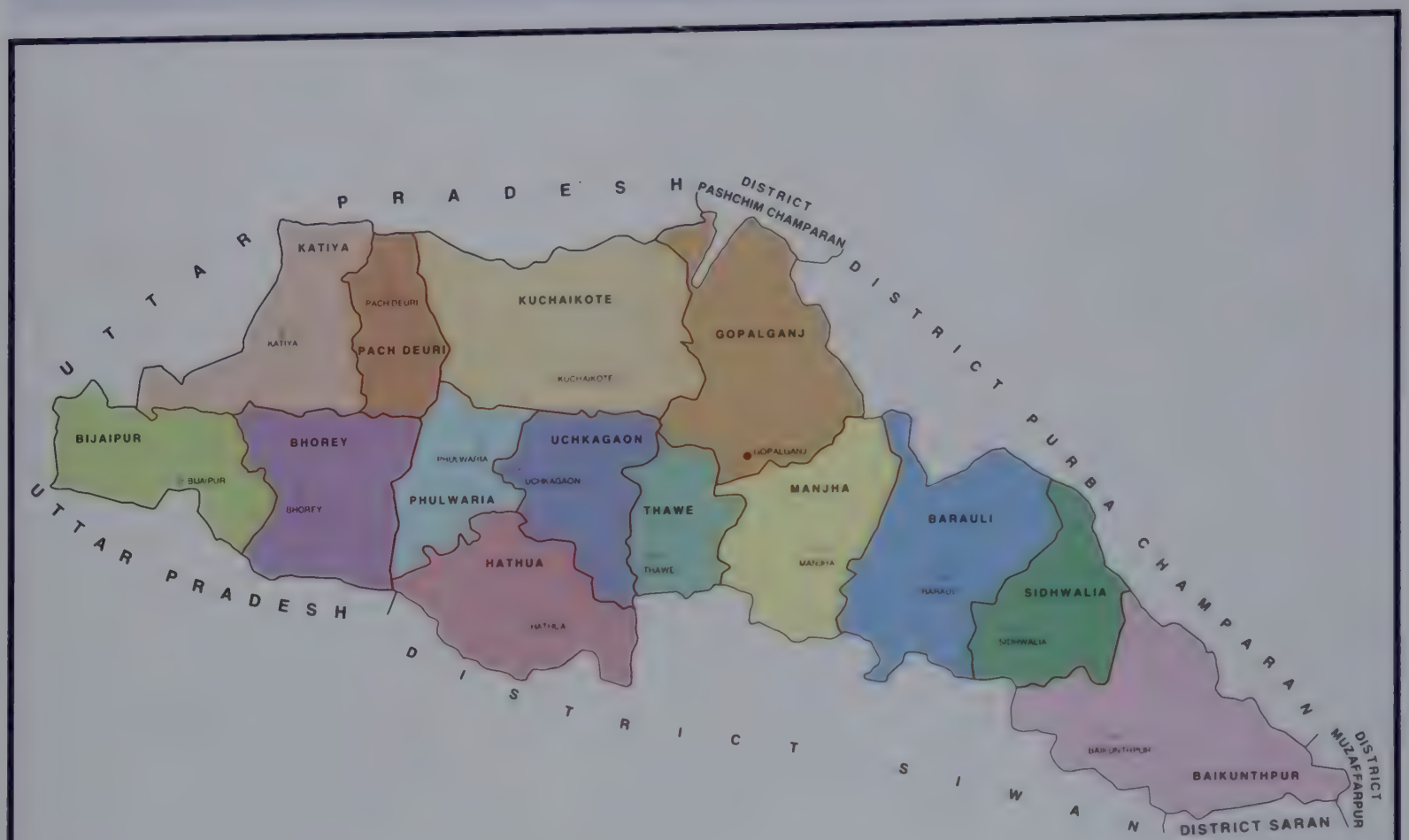
Demographic particulars (Census, 2001)

Population	Persons	3473428
	Males	1792163
	Females	1681265
	Rural (%)	86.3
	Urban (%)	13.7
	Scheduled Castes (%)	29.6
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	30.7
	Elderly population (60+ years) (%)	6.7
	Decadal growth rate, 1991–2001 (%)	30.3
	Population density (per sq km)	698

Sex Ratio (females per 1000 males)	1991	922
	2001	938
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	983
	2001	968
Literacy rate (7+)	Persons	50.4
	Males	63.3
	Females	36.7
Work participation rate	Total	36.8
	Female	25.5
Household amenities	Households with kutchha houses (%)	20.6
	Households with safe drinking water (%)	71.8
	Households with electricity connection (%)	10.0
Vital rates	Crude Birth Rate	33.2
	Total Fertility Rate	4.4
	Infant Mortality Rate	48
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	54.7
	Birth order 3 + (%)	50.5
	Current use of any FP Method (%)	28.4
	Total unmet need (%)	41.1
	Pregnant women with any ANC (%)	33.0
	Pregnant women with 3+ ANCs (%)	21.3
	Pregnant women received IFA tablets (%)	7.6
	Safe delivery (%)	37.9
	Institutional delivery (%)	23.6
	Children with full immunization (%)	14.4
Communicable Diseases	Kala-azar prevalence (%)	0.2
	TB incidence (%)	4.6
	HIV + prevalence among STD Clinics	0.4
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	90.7
	Aware of HIV/ AIDS (%)	25.2
Health Infrastructure	CHCs	2
	PHCs	68
	Sub-Centres	439

GOPALGANJ

General information
Area (sq km): 2033 As proportion of state's area: 2.2%
Community Development Blocks: 14 Towns: 4 Villages: 1475



Demographic particulars (Census, 2001)

Population	Persons	2152638
	Males	1075710
	Females	1076928
	Rural (%)	93.3
	Urban (%)	6.1
	Scheduled Castes (%)	12.4
	Scheduled Tribes (%)	0.3
	Young people (10–24 years) (%)	30.1
	Elderly population (60+ years) (%)	7.3
	Decadal growth rate, 1991–2001 (%)	26.3
	Population density (per sq km)	1059

Sex Ratio (females per 1000 males)	1991	968
	2001	1001
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	966
	2001	964
Literacy rate (7+)	Persons	47.5
	Males	63.0
	Females	32.2
Work participation rate	Total	29.8
	Female	15.1
Household amenities	Households with kutchha houses (%)	35.3
	Households with safe drinking water (%)	97.3
	Households with electricity connection (%)	6.0
Vital rates	Crude Birth Rate	31.9
	Total Fertility Rate	4.4
	Infant Mortality Rate	63
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	34.6
	Birth order 3 + (%)	54.2
	Current use of any FP Method (%)	30.1
	Total unmet need (%)	34.8
	Pregnant women with any ANC (%)	53.3
	Pregnant women with 3+ ANCs (%)	28.4
	Pregnant women received IFA tablets (%)	12.5
	Safe delivery (%)	35.2
	Institutional delivery (%)	24.0
	Children with full immunization (%)	39.0
Communicable Diseases	Kala-azar prevalence (%)	4.3
	TB incidence (%)	1.6
	HIV + prevalence among STD Clinics	1.6
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	97.6
	Aware of HIV/ AIDS (%)	29.7
Health Infrastructure	CHCs	3
	PHCs	32
	Sub-Centres	186

JAMUI

General information
Area (sq km): 3098 As proportion of state's area: 3.3%
Community Development Blocks: 10 Towns: 2 Villages: 1373

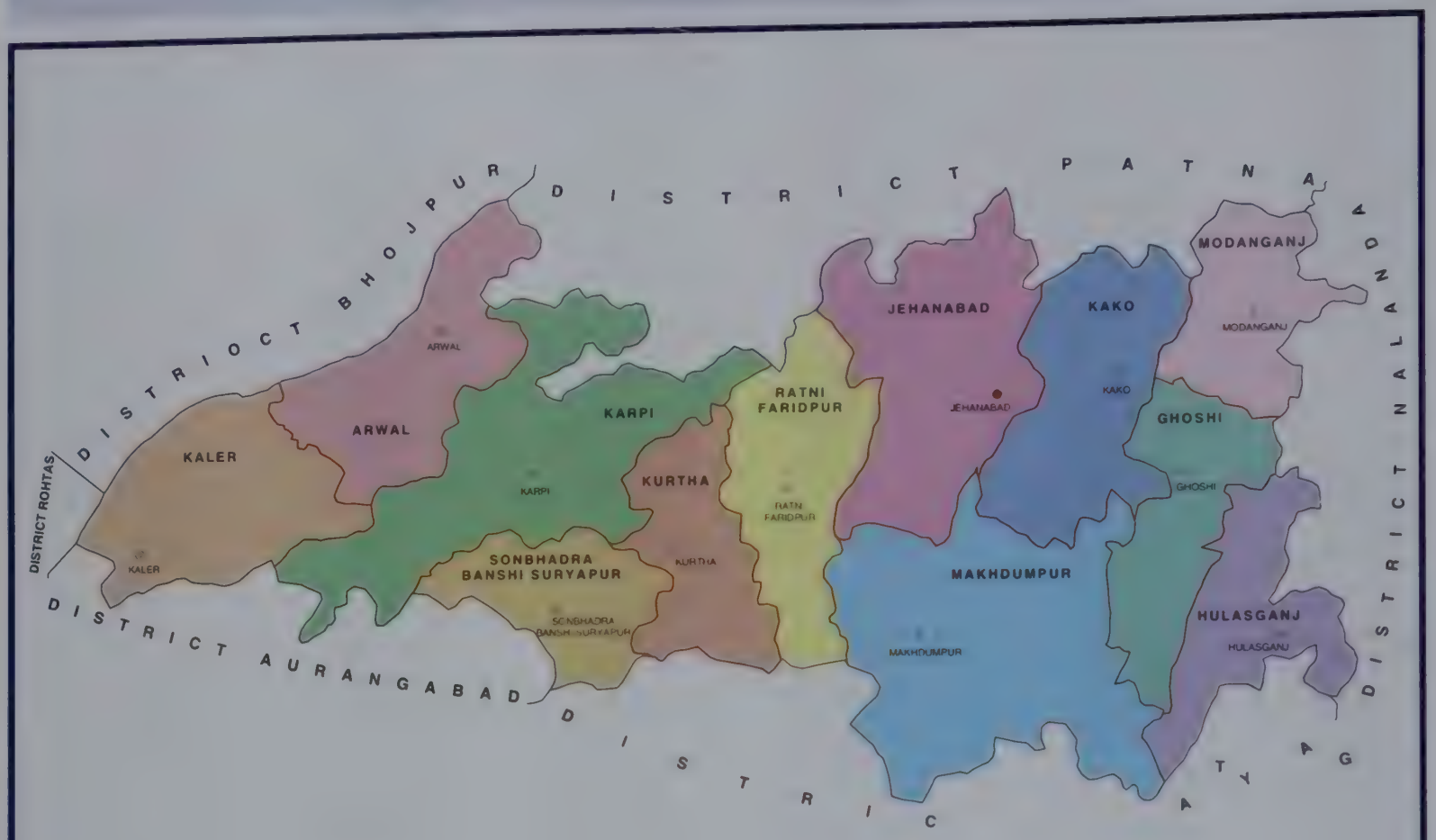
Demographic particulars (Census, 2001)

Population	Persons	1398796
	Males	729138
	Females	669658
	Rural (%)	92.6
	Urban (%)	7.4
	Scheduled Castes (%)	17.4
	Scheduled Tribes (%)	4.8
	Young people (10–24 years) (%)	30.3
	Elderly population (60+ years) (%)	6.1
	Decadal growth rate, 1991–2001 (%)	33.0
	Population density (per sq km)	452

Sex Ratio (females per 1000 males)	1991	903
	2001	918
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	967
	2001	963
Literacy rate (7+)	Persons	42.4
	Males	57.1
	Females	26.3
Work participation rate	Total	42.7
	Female	34.8
Household amenities	Households with kutchha houses (%)	9.9
	Households with safe drinking water (%)	38.3
	Households with electricity connection (%)	7.0
Vital rates	Crude Birth Rate	32.8
	Total Fertility Rate	4.5
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	64.7
	Birth order 3 + (%)	49.8
	Current use of any FP Method (%)	28.9
	Total unmet need (%)	33.2
	Pregnant women with any ANC (%)	43.7
	Pregnant women with 3+ ANCs (%)	22.7
	Pregnant women received IFA tablets (%)	12.0
	Safe delivery (%)	27.4
	Institutional delivery (%)	23.5
	Children with full immunization (%)	13.1
Communicable Diseases	Kala-azar prevalence (%)	0.1
	TB incidence (%)	1.1
	HIV + prevalence among STD Clinics	2.0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	95.3
	Aware of HIV/ AIDS (%)	20.0
Health Infrastructure	CHCs	3
	PHCs	28
	Sub-Centres	166

JEHANABAD

General information
Area (sq km): 1569 As proportion of state's area: 1.7%
Community Development Blocks: 12 Towns: 2 Villages: 928



Demographic particulars (Census, 2001)

Population	Persons	1514315
	Males	784946
	Females	729369
	Rural (%)	92.6
	Urban (%)	7.4
	Scheduled Castes (%)	18.9
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	30.1
	Elderly population (60+ years) (%)	7.4
	Decadal growth rate, 1991–2001 (%)	28.9
	Population density (per sq km)	965

Sex Ratio (females per 1000 males)	1991	919
	2001	929
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	967
	2001	917
Literacy rate (7+)	Persons	55.3
	Males	70.1
	Females	39.4
Work participation rate	Total	38.4
	Female	27.9
Household amenities	Households with kutchha houses (%)	17.0
	Households with safe drinking water (%)	83.4
	Households with electricity connection (%)	4.6
Vital rates	Crude Birth Rate	32.0
	Total Fertility Rate	4.1
	Infant Mortality Rate	80
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	60.4
	Birth order 3 + (%)	57.9
	Current use of any FP Method (%)	28.2
	Total unmet need (%)	44.9
	Pregnant women with any ANC (%)	33.6
	Pregnant women with 3+ ANCs (%)	20.0
	Pregnant women received IFA tablets (%)	6.9
	Safe delivery (%)	42.6
	Institutional delivery (%)	35.1
	Children with full immunization (%)	16.8
Communicable Diseases	Kala-azar prevalence (%)	0
	TB incidence (%)	1.2
	HIV + prevalence among STD Clinics	1.2
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	93.4
	Aware of HIV/ AIDS (%)	25.8
Health Infrastructure	CHCs	2
	PHCs	29
	Sub-Centres	81

KAIMUR (BHABUA)

General information
Area (sq km): 3362 As proportion of state's area: 3.6%
Community Development Blocks: 11 Towns: 1 Villages: 1398

Demographic particulars (Census, 2001)

Population	Persons	1289074
	Males	677623
	Females	611451
	Rural (%)	96.8
	Urban (%)	3.2
	Scheduled Castes (%)	22.2
	Scheduled Tribes (%)	2.8
	Young people (10–24 years) (%)	28.5
	Elderly population (60+ years) (%)	7.4
	Decadal growth rate, 1991–2001 (%)	31.1
	Population density (per sq km)	383

Sex Ratio (females per 1000 males)	1991	884
	2001	902
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	918
	2001	940
Literacy rate (7+)	Persons	55.1
	Males	69.7
	Females	38.8
Work participation rate	Total	34.4
	Female	20.7
Household amenities	Households with kutchha houses (%)	5.5
	Households with safe drinking water (%)	75.0
	Households with electricity connection (%)	11.3
Vital rates	Crude Birth Rate	34.4
	Total Fertility Rate	4.8
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	48.6
	Birth order 3 + (%)	54.4
	Current use of any FP Method (%)	33.6
	Total unmet need (%)	39.1
	Pregnant women with any ANC (%)	36.1
	Pregnant women with 3+ ANCs (%)	21.6
	Pregnant women received IFA tablets (%)	7.4
	Safe delivery (%)	28.8
	Institutional delivery (%)	13.1
	Children with full immunization (%)	17.5
Communicable Diseases	Kala-azar prevalence (%)	0.4
	TB incidence (%)	1.5
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	90.9
	Aware of HIV/ AIDS (%)	29.8
Health Infrastructure	CHCs	2
	PHCs	49
	Sub-Centres	107

KATIHAR

General information
Area (sq km): 3057 As proportion of state's area: 3.2%
Community Development Blocks: 16 Towns: 3 Villages: 1393

Demographic particulars (Census, 2001)

Population	Persons	2392638
	Males	1246872
	Females	1145766
	Rural (%)	90.9
	Urban (%)	9.1
	Scheduled Castes (%)	8.7
	Scheduled Tribes (%)	5.9
	Young people (10–24 years) (%)	29.1
	Elderly population (60+ years) (%)	5.5
	Decadal growth rate, 1991–2001 (%)	31.1
	Population density (per sq km)	783

Sex Ratio (females per 1000 males)	1991	909
	2001	919
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	975
	2001	966
Literacy rate (7+)	Persons	35.1
	Males	45.3
	Females	23.8
Work participation rate	Total	37.5
	Female	23.1
Household amenities	Households with kutchha houses (%)	48.5
	Households with safe drinking water (%)	96.5
	Households with electricity connection (%)	7.0
Vital rates	Crude Birth Rate	38.2
	Total Fertility Rate	5.3
	Infant Mortality Rate	68
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	46.2
	Birth order 3 + (%)	56.4
	Current use of any FP Method (%)	33.6
	Total unmet need (%)	39.1
	Pregnant women with any ANC (%)	36.1
	Pregnant women with 3+ ANCs (%)	21.6
	Pregnant women received IFA tablets (%)	7.4
	Safe delivery (%)	28.8
	Institutional delivery (%)	13.1
	Children with full immunization (%)	17.5
Communicable Diseases	Kala-azar prevalence (%)	2.1
	TB incidence (%)	5.1
	HIV + prevalence among STD Clinics	2.5
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	95.4
	Aware of HIV/ AIDS (%)	28.9
Health Infrastructure	CHCs	3
	PHCs	43
	Sub-Centres	257

KHAGARIA

General information
Area (sq km): 1486 As proportion of state's area: 1.6%
Community Development Blocks: 7 Towns: 2 Villages: 298

Demographic particulars (Census, 2001)

Population	Persons	1280354
	Males	679267
	Females	601087
	Rural (%)	94.0
	Urban (%)	6.0
	Scheduled Castes (%)	14.5
	Scheduled Tribes (%)	0.0
	Young people (10–24 years) (%)	29.7
	Elderly population (60+ years) (%)	6.0
	Decadal growth rate, 1991–2001 (%)	29.7
	Population density (per sq km)	862

Sex Ratio (females per 1000 males)	1991	868
	2001	885
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	943
	2001	932
Literacy rate (7+)	Persons	41.3
	Males	51.8
	Females	29.3
Work participation rate	Total	36.5
	Female	22.9
Household amenities	Households with kutchha houses (%)	34.8
	Households with safe drinking water (%)	95.8
	Households with electricity connection (%)	8.9
Vital rates	Crude Birth Rate	35.7
	Total Fertility Rate	5.1
	Infant Mortality Rate	72
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	58.2
	Birth order 3 + (%)	59.4
	Current use of any FP Method (%)	30.8
	Total unmet need (%)	35.2
	Pregnant women with any ANC (%)	23.3
	Pregnant women with 3+ ANCs (%)	9.6
	Pregnant women received IFA tablets (%)	3.1
	Safe delivery (%)	20.2
	Institutional delivery (%)	15.1
	Children with full immunization (%)	21.1
Communicable Diseases	Kala-azar prevalence (%)	3.2
	TB incidence (%)	0.8
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	89.9
	Aware of HIV/ AIDS (%)	25.0
Health Infrastructure	CHCs	1
	PHCs	24
	Sub-Centres	151

KISHANGANJ

General information
Area (sq km): 1884 As proportion of state's area: 2.0%
Community Development Blocks: 7 Towns: 3 Villages: 815

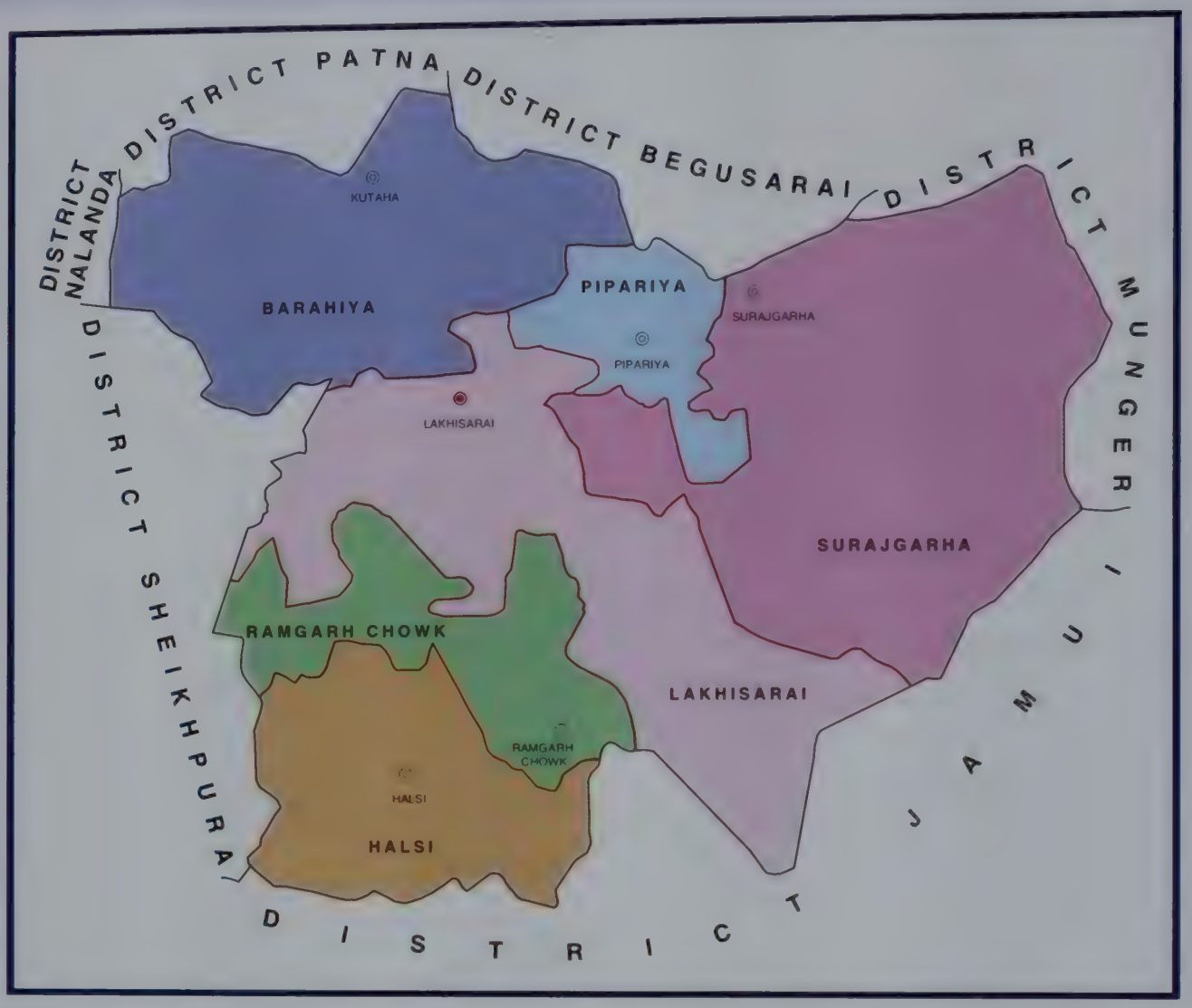
Demographic particulars (Census, 2001)

Population	Persons	1296348
	Males	669552
	Females	626796
	Rural (%)	90.0
	Urban (%)	10.0
	Scheduled Castes (%)	6.6
	Scheduled Tribes (%)	3.6
	Young people (10–24 years) (%)	29.5
	Elderly population (60+ years) (%)	4.9
	Decadal growth rate, 1991–2001 (%)	31.7
	Population density (per sq km)	688

Sex Ratio (females per 1000 males)	1991	933
	2001	936
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	982
	2001	947
Literacy rate (7+)	Persons	31.1
	Males	42.7
	Females	18.6
Work participation rate	Total	32.2
	Female	10.2
Household amenities	Households with kutchha houses (%)	52.2
	Households with safe drinking water (%)	90.9
	Households with electricity connection (%)	4.5
Vital rates	Crude Birth Rate	39.0
	Total Fertility Rate	5.3
	Infant Mortality Rate	81
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	42.6
	Birth order 3 + (%)	65.6
	Current use of any FP Method (%)	23.1
	Total unmet need (%)	47.3
	Pregnant women with any ANC (%)	28.3
	Pregnant women with 3+ ANCs (%)	12.4
	Pregnant women received IFA tablets (%)	2.8
	Safe delivery (%)	20.5
	Institutional delivery (%)	14.1
	Children with full immunization (%)	7.9
Communicable Diseases	Kala-azar prevalence (%)	1.1
	TB incidence (%)	0.9
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	84.0
	Aware of HIV/ AIDS (%)	22.4
Health Infrastructure	CHCs	2
	PHCs	15
	Sub-Centres	136

LAKHISARAI

General information
Area (sq km): 1228 As proportion of state's area: 1.3%
Community Development Blocks: 6 Towns: 2 Villages: 410



Demographic particulars (Census, 2001)

Population	Persons	802225
	Males	417672
	Females	384553
	Rural (%)	85.3
	Urban (%)	14.7
	Scheduled Castes (%)	15.8
	Scheduled Tribes (%)	0.7
	Young people (10–24 years) (%)	29.5
	Elderly population (60+ years) (%)	6.6
	Decadal growth rate, 1991–2001 (%)	24.1
	Population density (per sq km)	653

Sex Ratio (females per 1000 males)	1991	880
	2001	921
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	955
	2001	951
Literacy rate (7+)	Persons	48.0
	Males	60.7
	Females	34.0
Work participation rate	Total	36.5
	Female	23.3
Household amenities	Households with kutchha houses (%)	15.7
	Households with safe drinking water (%)	57.6
	Households with electricity connection (%)	12.9
Vital rates	Crude Birth Rate	33.8
	Total Fertility Rate	4.7
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	57.4
	Birth order 3 + (%)	50.0
	Current use of any FP Method (%)	32.6
	Total unmet need (%)	31.6
	Pregnant women with any ANC (%)	40.4
	Pregnant women with 3+ ANCs (%)	21.9
	Pregnant women received IFA tablets (%)	13.4
	Safe delivery (%)	30.9
	Institutional delivery (%)	25.4
	Children with full immunization (%)	23.2
Communicable Diseases	Kala-azar prevalence (%)	0.2
	TB incidence (%)	0.3
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	1.0
Women's Health Awareness	Aware of RTI/ STI (%)	96.7
	Aware of HIV/ AIDS (%)	24.3
Health Infrastructure	CHCs	1
	PHCs	17
	Sub-Centres	102

MADHEPURA

General information
Area (sq km): 1788 As proportion of state's area: 1.9%
Community Development Blocks: 13 Towns: 2 Villages: 450

Demographic particulars (Census, 2001)

Population	Persons	1526646
	Males	797180
	Females	729466
	Rural (%)	95.5
	Urban (%)	4.5
	Scheduled Castes (%)	17.1
	Scheduled Tribes (%)	0.6
	Young people (10–24 years) (%)	28.3
	Elderly population (60+ years) (%)	5.7
	Decadal growth rate, 1991–2001 (%)	29.6
	Population density (per sq km)	854

Sex Ratio (females per 1000 males)	1991	885
	2001	915
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	942
	2001	927
Literacy rate (7+)	Persons	36.1
	Males	48.8
	Females	22.1
Work participation rate	Total	44.8
	Female	37.3
Household amenities	Households with kutchha houses (%)	72.1
	Households with safe drinking water (%)	96.6
	Households with electricity connection (%)	3.8
Vital rates	Crude Birth Rate	36.7
	Total Fertility Rate	4.8
	Infant Mortality Rate	67
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	54.3
	Birth order 3 + (%)	50.4
	Current use of any FP Method (%)	31.5
	Total unmet need (%)	37.9
	Pregnant women with any ANC (%)	27.5
	Pregnant women with 3+ ANCs (%)	11.7
	Pregnant women received IFA tablets (%)	8.9
	Safe delivery (%)	21.7
	Institutional delivery (%)	11.8
	Children with full immunization (%)	21.7
Communicable Diseases	Kala-azar prevalence (%)	3.5
	TB incidence (%)	1.8
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0.5
Women's Health Awareness	Aware of RTI/ STI (%)	89.2
	Aware of HIV/ AIDS (%)	17.3
Health Infrastructure	CHCs	1
	PHCs	30
	Sub-Centres	115

MADHUBANI

General information
Area (sq km): 3501 As proportion of state's area: 3.7%
Community Development Blocks: 21 Towns: 4 Villages: 1150

Demographic particulars (Census, 2001)

Population	Persons	3575281
	Males	1840997
	Females	1734284
	Rural (%)	96.5
	Urban (%)	3.5
	Scheduled Castes (%)	13.5
	Scheduled Tribes (%)	0.0
	Young people (10–24 years) (%)	28.6
	Elderly population (60+ years) (%)	6.6
	Decadal growth rate, 1991–2001 (%)	26.2
	Population density (per sq km)	1021

Sex Ratio (females per 1000 males)	1991	932
	2001	942
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	953
	2001	939
Literacy rate (7+)	Persons	42.0
	Males	56.8
	Females	26.2
Work participation rate	Total	34.3
	Female	20.1
Household amenities	Households with kutchha houses (%)	61.6
	Households with safe drinking water (%)	98.1
	Households with electricity connection (%)	5.1
Vital rates	Crude Birth Rate	33.3
	Total Fertility Rate	4.3
	Infant Mortality Rate	86
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	60.8
	Birth order 3 + (%)	54.7
	Current use of any FP Method (%)	30.4
	Total unmet need (%)	31.8
	Pregnant women with any ANC (%)	36.0
	Pregnant women with 3+ ANCs (%)	15.5
	Pregnant women received IFA tablets (%)	5.6
	Safe delivery (%)	15.4
	Institutional delivery (%)	7.7
	Children with full immunization (%)	15.5
Communicable Diseases	Kala-azar prevalence (%)	1.7
	TB incidence (%)	3.7
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	71.0
	Aware of HIV/ AIDS (%)	26.2
Health Infrastructure	CHCs	2
	PHCs	95
	Sub-Centres	430

MUNGER

General information
Area (sq km): 1419 As proportion of state's area: 1.5%
Community Development Blocks: 1.5 Towns: 1.5 Villages: 633

Demographic particulars (Census, 2001)

Population	Persons	1137797
	Males	607730
	Females	530067
	Rural (%)	72.1
	Urban (%)	27.9
	Scheduled Castes (%)	13.3
	Scheduled Tribes (%)	1.6
	Young people (10–24 years) (%)	31.2
	Elderly population (60+ years) (%)	6.8
	Decadal growth rate, 1991–2001 (%)	20.6
	Population density (per sq km)	802

Sex Ratio (females per 1000 males)	1991	856
	2001	872
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	934
	2001	914
Literacy rate (7+)	Persons	59.5
	Males	69.9
	Females	47.4
Work participation rate	Total	29.1
	Female	13.4
Household amenities	Households with kutchha houses (%)	23.5
	Households with safe drinking water (%)	51.0
	Households with electricity connection (%)	23.7
Vital rates	Crude Birth Rate	29.0
	Total Fertility Rate	4.0
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	48.3
	Birth order 3 + (%)	50.7
	Current use of any FP Method (%)	38.6
	Total unmet need (%)	35.4
	Pregnant women with any ANC (%)	48.1
	Pregnant women with 3+ ANCs (%)	22.5
	Pregnant women received IFA tablets (%)	5.5
	Safe delivery (%)	47.3
	Institutional delivery (%)	38.8
	Children with full immunization (%)	26.4
Communicable Diseases	Kala-azar prevalence (%)	0
	TB incidence (%)	2.0
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	96.7
	Aware of HIV/ AIDS (%)	36.8
Health Infrastructure	CHCs	1
	PHCs	19
	Sub-Centres	123

MUZAFFARPUR

General information
Area (sq km): 3172 As proportion of state's area: 3.4%
Community Development Blocks: 16 Towns: 3 Villages: 1824

Demographic particulars (Census, 2001)

Population	Persons	3746714
	Males	1951466
	Females	1795248
	Rural (%)	90.7
	Urban (%)	9.3
	Scheduled Castes (%)	15.9
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	29.5
	Elderly population (60+ years) (%)	7.0
	Decadal growth rate, 1991–2001 (%)	26.8
	Population density (per sq km)	1181

Sex Ratio (females per 1000 males)	1991	904
	2001	920
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	943
	2001	928
Literacy rate (7+)	Persons	48.0
	Males	59.1
	Females	35.8
Work participation rate	Total	30.4
	Female	12.7
Household amenities	Households with kutchha houses (%)	42.9
	Households with safe drinking water (%)	93.1
	Households with electricity connection (%)	12.5
Vital rates	Crude Birth Rate	32.7
	Total Fertility Rate	4.6
	Infant Mortality Rate	64
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	44.5
	Birth order 3 + (%)	51.9
	Current use of any FP Method (%)	32.5
	Total unmet need (%)	37.8
	Pregnant women with any ANC (%)	40.4
	Pregnant women with 3+ ANCs (%)	20.8
	Pregnant women received IFA tablets (%)	7.8
	Safe delivery (%)	31.0
	Institutional delivery (%)	19.4
	Children with full immunization (%)	35.9
Communicable Diseases	Kala-azar prevalence (%)	12.4
	TB incidence (%)	8.4
	HIV + prevalence among STD Clinics	0.4
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	66.6
	Aware of HIV/ AIDS (%)	38.4
Health Infrastructure	CHCs	1
	PHCs	61
	Sub-Centres	473

NALANDA

General information
Area (sq km): 2355
Community Development Blocks: 20

As proportion of state's area: 2.5%
Towns: 5 Villages: 1140

Demographic particulars (Census, 2001)

Population	Persons	2370528
	Males	1238599
	Females	1131929
	Rural (%)	85.1
	Urban (%)	14.9
	Scheduled Castes (%)	20.0
	Scheduled Tribes (%)	0.0
	Young people (10–24 years) (%)	30.0
	Elderly population (60+ years) (%)	7.1
	Decadal growth rate, 1991–2001 (%)	18.7
	Population density (per sq km)	1007

Sex Ratio (females per 1000 males)	1991	898
	2001	914
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	962
	2001	942
Literacy rate (7+)	Persons	53.2
	Males	66.4
	Females	38.6
Work participation rate	Total	38.1
	Female	27.0
Household amenities	Households with kutchha houses (%)	12.9
	Households with safe drinking water (%)	63.3
	Households with electricity connection (%)	10.4
Vital rates	Crude Birth Rate	31.2
	Total Fertility Rate	4.2
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	59.6
	Birth order 3 + (%)	59.1
	Current use of any FP Method (%)	26.4
	Total unmet need (%)	37.9
	Pregnant women with any ANC (%)	33.2
	Pregnant women with 3+ ANCs (%)	15.0
	Pregnant women received IFA tablets (%)	5.5
	Safe delivery (%)	38.0
	Institutional delivery (%)	30.8
	Children with full immunization (%)	21.8
Communicable Diseases	Kala-azar prevalence (%)	0.1
	TB incidence (%)	4.6
	HIV + prevalence among STD Clinics	1.3
	HIV + prevalence among ANC Clinics	0.2
Women's Health Awareness	Aware of RTI/ STI (%)	96.8
	Aware of HIV/ AIDS (%)	27.0
Health Infrastructure	CHCs	3
	PHCs	48
	Sub-Centres	302

NAWADA

General information
Area (sq km): 2494 As proportion of state's area: 2.6%
Community Development Blocks: 14 Towns: 3 Villages: 1051

Demographic particulars (Census, 2001)

Population	Persons	1809696
	Males	929960
	Females	879736
	Rural (%)	92.3
	Urban (%)	7.7
	Scheduled Castes (%)	24.1
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	30.4
	Elderly population (60+ years) (%)	6.8
	Decadal growth rate, 1991–2001 (%)	33.1
	Population density (per sq km)	726

Sex Ratio (females per 1000 males)	1991	936
	2001	946
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	974
	2001	978
Literacy rate (7+)	Persons	46.8
	Males	60.6
	Females	32.2
Work participation rate	Total	37.3
	Female	25.8
Household amenities	Households with kutchha houses (%)	13.6
	Households with safe drinking water (%)	74.0
	Households with electricity connection (%)	6.7
Vital rates	Crude Birth Rate	33.3
	Total Fertility Rate	4.3
	Infant Mortality Rate	48
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	58.6
	Birth order 3 + (%)	55.1
	Current use of any FP Method (%)	28.8
	Total unmet need (%)	45.9
	Pregnant women with any ANC (%)	35.1
	Pregnant women with 3+ ANCs (%)	15.4
	Pregnant women received IFA tablets (%)	5.8
	Safe delivery (%)	34.1
	Institutional delivery (%)	26.1
	Children with full immunization (%)	25.4
Communicable Diseases	Kala-azar prevalence (%)	0
	TB incidence (%)	1.7
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0.2
Women's Health Awareness	Aware of RTI/ STI (%)	90.9
	Aware of HIV/ AIDS (%)	27.3
Health Infrastructure	CHCs	2
	PHCs	37
	Sub-Centres	129

PASCHIM CHAMPARAN

General information
Area (sq km): 5228 As proportion of state's area: 5.6%
Community Development Blocks: 18 Towns: 5 Villages: 1484

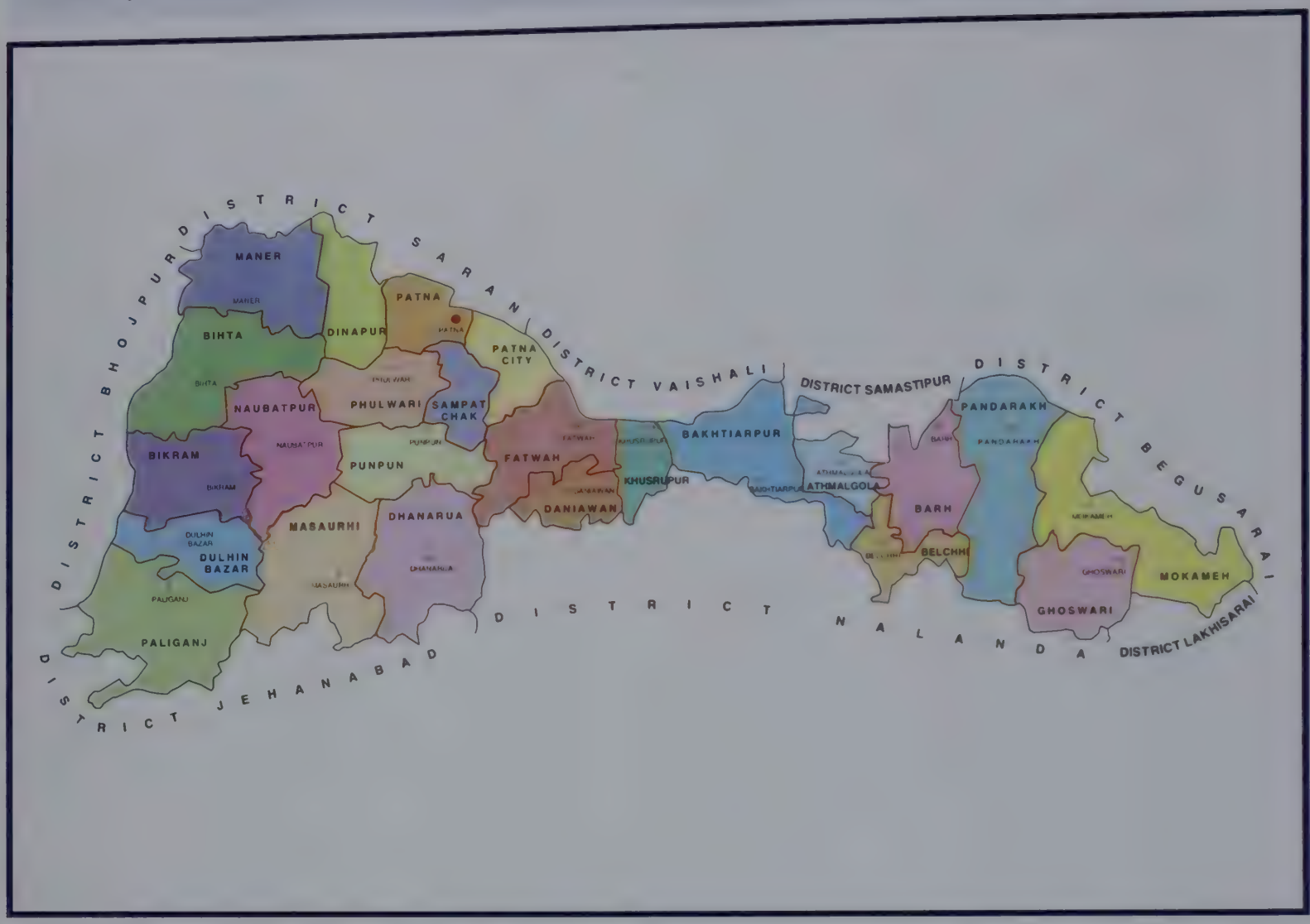
Demographic particulars (Census, 2001)

Population	Persons	3043466
	Males	1600839
	Females	1442627
	Rural (%)	89.8
	Urban (%)	10.2
	Scheduled Castes (%)	14.3
	Scheduled Tribes (%)	1.5
	Young people (10–24 years) (%)	28.1
	Elderly population (60+ years) (%)	6.1
	Decadal growth rate, 1991–2001 (%)	30.4
	Population density (per sq km)	582

Sex Ratio (females per 1000 males)	1991	877
	2001	901
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	963
	2001	953
Literacy rate (7+)	Persons	38.9
	Males	51.1
	Females	25.2
Work participation rate	Total	37.9
	Female	23.6
Household amenities	Households with kutchha houses (%)	52.3
	Households with safe drinking water (%)	96.8
	Households with electricity connection (%)	6.2
Vital rates	Crude Birth Rate	35.7
	Total Fertility Rate	5.0
	Infant Mortality Rate	73
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	63.9
	Birth order 3 + (%)	57.0
	Current use of any FP Method (%)	24.6
	Total unmet need (%)	37.2
	Pregnant women with any ANC (%)	35.1
	Pregnant women with 3+ ANCs (%)	17.5
	Pregnant women received IFA tablets (%)	4.5
	Safe delivery (%)	37.1
	Institutional delivery (%)	28.6
	Children with full immunization (%)	7.6
Communicable Diseases	Kala-azar prevalence (%)	1.9
	TB incidence (%)	5.2
	HIV + prevalence among STD Clinics	1.2
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	51.6
	Aware of HIV/ AIDS (%)	7.7
Health Infrastructure	CHCs	2
	PHCs	41
	Sub-Centres	389

PATNA

General information
Area (sq km): 3202 As proportion of state's area: 3.4%
Community Development Blocks: 24 Towns: 12 Villages: 1565



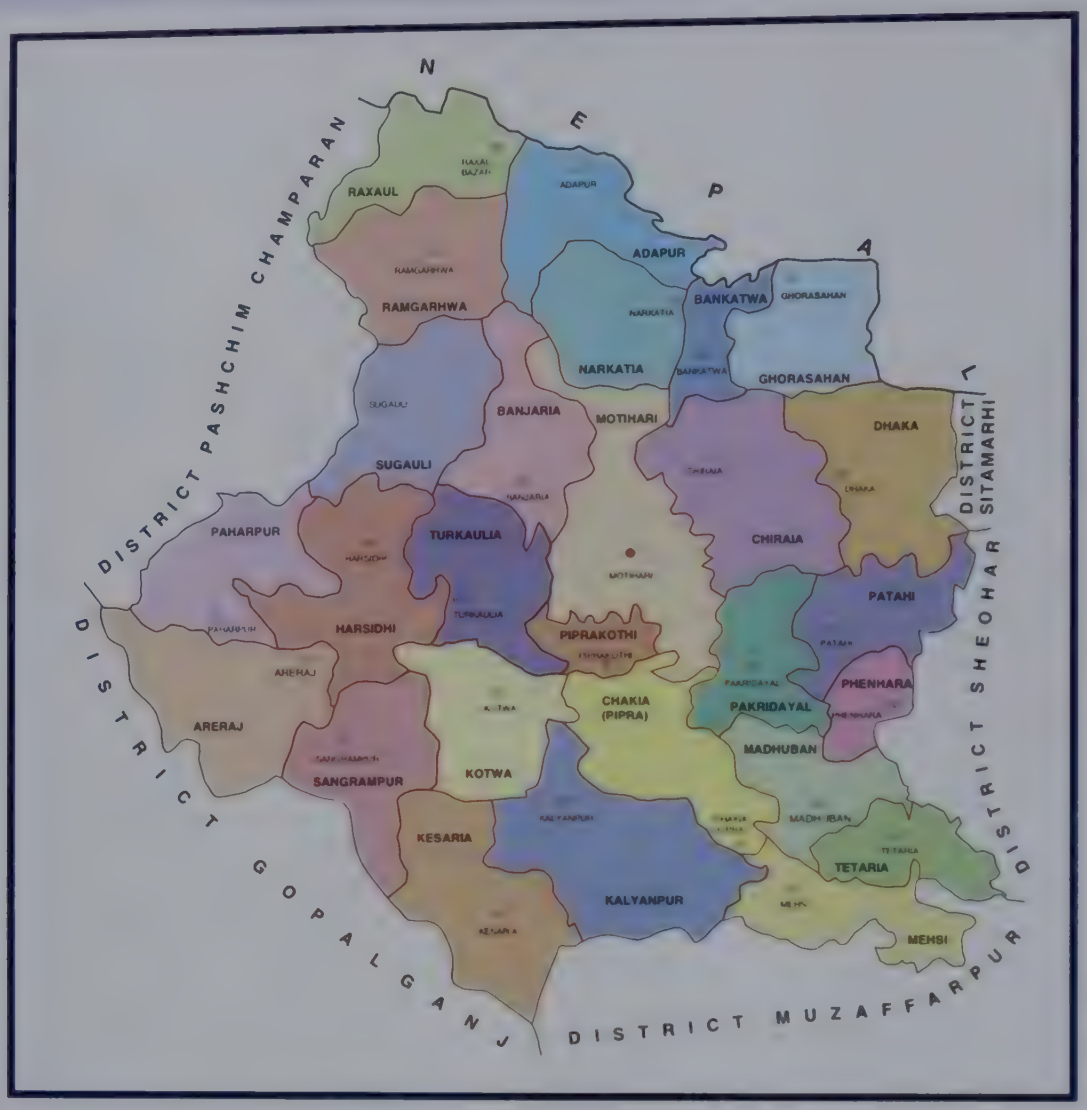
Demographic particulars (Census, 2001)

Population	Persons	4718592
	Males	2519942
	Females	2198650
	Rural (%)	58.4
	Urban (%)	41.6
	Scheduled Castes (%)	15.5
	Scheduled Tribes (%)	0.2
	Young people (10–24 years) (%)	31.7
	Elderly population (60+ years) (%)	6.7
	Decadal growth rate, 1991–2001 (%)	30.4
	Population density (per sq km)	1474

Sex Ratio (females per 1000 males)	1991	867
	2001	873
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	937
	2001	923
Literacy rate (7+)	Persons	62.9
	Males	73.3
	Females	50.8
Work participation rate	Total	30.2
	Female	13.3
Household amenities	Households with kutchha houses (%)	9.4
	Households with safe drinking water (%)	77.5
	Households with electricity connection (%)	42.8
Vital rates	Crude Birth Rate	28.4
	Total Fertility Rate	3.9
	Infant Mortality Rate	52
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	44.7
	Birth order 3 + (%)	48.1
	Current use of any FP Method (%)	36.8
	Total unmet need (%)	34.0
	Pregnant women with any ANC (%)	52.4
	Pregnant women with 3+ ANCs (%)	31.0
	Pregnant women received IFA tablets (%)	15.4
	Safe delivery (%)	49.2
	Institutional delivery (%)	45.3
	Children with full immunization (%)	39.9
Communicable Diseases	Kala-azar prevalence (%)	1.4
	TB incidence (%)	8.5
	HIV + prevalence among STD Clinics	3.2
	HIV + prevalence among ANC Clinics	0.7
Women's Health Awareness	Aware of RTI/ STI (%)	96.0
	Aware of HIV/ AIDS (%)	47.5
Health Infrastructure	CHCs	4
	PHCs	86
	Sub-Centres	418

PURBA CHAMPARAN

General information
Area (sq km): 3968 As proportion of state's area: 4.2
Community Development Blocks: 27 Towns: 7 Villages: 2835



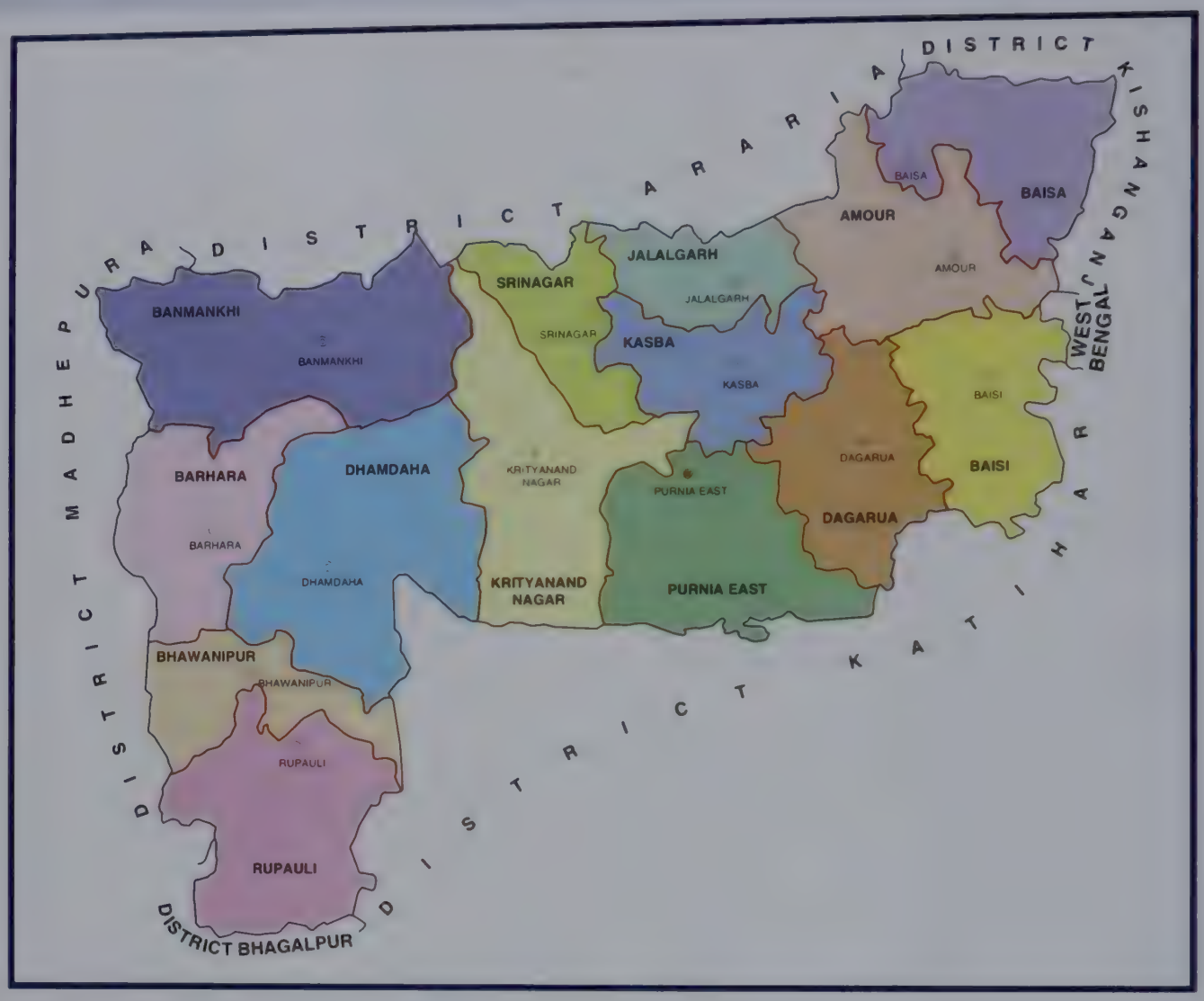
Demographic particulars (Census, 2001)

Population	Persons	3939773
	Males	2077047
	Females	1862726
	Rural (%)	93.6
	Urban (%)	6.4
	Scheduled Castes (%)	13.0
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	28.4
	Elderly population (60+ years) (%)	6.2
	Decadal growth rate, 1991–2001 (%)	29.5
	Population density (per sq km)	993

Sex Ratio (females per 1000 males)	1991	883
	2001	897
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	944
	2001	937
Literacy rate (7+)	Persons	37.5
	Males	49.3
	Females	24.3
Work participation rate	Total	32.7
	Female	14.7
Household amenities	Households with kutchha houses (%)	45.0
	Households with safe drinking water (%)	93.0
	Households with electricity connection (%)	6.3
Vital rates	Crude Birth Rate	34.8
	Total Fertility Rate	4.9
	Infant Mortality Rate	81
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	59.0
	Birth order 3 + (%)	54.9
	Current use of any FP Method (%)	27.8
	Total unmet need (%)	38.4
	Pregnant women with any ANC (%)	42.6
	Pregnant women with 3+ ANCs (%)	23.5
	Pregnant women received IFA tablets (%)	11.0
	Safe delivery (%)	27.2
	Institutional delivery (%)	18.6
	Children with full immunization (%)	14.6
Communicable Diseases	Kala-azar prevalence (%)	6.0
	TB incidence (%)	3.2
	HIV + prevalence among STD Clinics	1.6
	HIV + prevalence among ANC Clinics	0.5
Women's Health Awareness	Aware of RTI/ STI (%)	80.5
	Aware of HIV/ AIDS (%)	26.0
Health Infrastructure	CHCs	3
	PHCs	66
	Sub-Centres	315

PURNIA

General information
Area (sq km): 3229 As proportion of state's area: 3.4%
Community Development Blocks: 14 Towns: 3 Villages: 1197



Demographic particulars (Census, 2001)

Population	Persons	2543942
	Males	1328417
	Females	1215525
	Rural (%)	91.3
	Urban (%)	8.7
	Scheduled Castes (%)	12.3
	Scheduled Tribes (%)	4.4
	Young people (10–24 years) (%)	28.8
	Elderly population (60+ years) (%)	5.4
	Decadal growth rate, 1991–2001 (%)	35.4
	Population density (per sq km)	788

Sex Ratio (females per 1000 males)	1991	903
	2001	915
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	965
	2001	967
Literacy rate (7+)	Persons	35.1
	Males	45.6
	Females	23.4
Work participation rate	Total	37.8
	Female	23.3
Household amenities	Households with kutchha houses (%)	72.6
	Households with safe drinking water (%)	98.2
	Households with electricity connection (%)	7.1
Vital rates	Crude Birth Rate	37.6
	Total Fertility Rate	5.0
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	42.2
	Birth order 3 + (%)	59.6
	Current use of any FP Method (%)	30.0
	Total unmet need (%)	31.2
	Pregnant women with any ANC (%)	26.3
	Pregnant women with 3+ ANCs (%)	12.5
	Pregnant women received IFA tablets (%)	3.1
	Safe delivery (%)	19.0
	Institutional delivery (%)	13.0
	Children with full immunization (%)	28.5
Communicable Diseases	Kala-azar prevalence (%)	6.0
	TB incidence (%)	3.4
	HIV + prevalence among STD Clinics	0.4
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	96.5
	Aware of HIV/ AIDS (%)	27.1
Health Infrastructure	CHCs	2
	PHCs	45
	Sub-Centres	278

ROHTAS

General information
Area (sq km): 3851 As proportion of state's area: 4.1%
Community Development Blocks: 18 Towns: 5 Villages: 1855

Demographic particulars (Census, 2001)

Population	Persons	2450748
	Males	1283485
	Females	1167263
	Rural (%)	86.7
	Urban (%)	13.3
	Scheduled Castes (%)	18.1
	Scheduled Tribes (%)	1.0
	Young people (10–24 years) (%)	30.0
	Elderly population (60+ years) (%)	6.9
	Decadal growth rate, 1991–2001 (%)	27.8
	Population density (per sq km)	636

Sex Ratio (females per 1000 males)	1991	894
	2001	909
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	965
	2001	951
Literacy rate (7+)	Persons	61.3
	Males	75.3
	Females	45.7
Work participation rate	Total	30.4
	Female	13.5
Household amenities	Households with kutchha houses (%)	2.4
	Households with safe drinking water (%)	92.6
	Households with electricity connection (%)	16.5
Vital rates	Crude Birth Rate	32.1
	Total Fertility Rate	4.5
	Infant Mortality Rate	41
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	46.8
	Birth order 3 + (%)	46.5
	Current use of any FP Method (%)	35.0
	Total unmet need (%)	30.5
	Pregnant women with any ANC (%)	52.4
	Pregnant women with 3+ ANCs (%)	25.8
	Pregnant women received IFA tablets (%)	8.7
	Safe delivery (%)	50.5
	Institutional delivery (%)	39.7
	Children with full immunization (%)	24.6
Communicable Diseases	Kala-azar prevalence (%)	1.3
	TB incidence (%)	2.6
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0.5
Women's Health Awareness	Aware of RTI/ STI (%)	86.6
	Aware of HIV/ AIDS (%)	30.7
Health Infrastructure	CHCs	1
	PHCs	30
	Sub-Centres	186

SAHARSA

General information
Area (sq km): 1702 As proportion of state's area: 1.8
Community Development Blocks: 10 Towns: 1 Villages: 504

Demographic particulars (Census, 2001)

Population	Persons	1508182
	Males	789432
	Females	718750
	Rural (%)	91.7
	Urban (%)	8.3
	Scheduled Castes (%)	16.1
	Scheduled Tribes (%)	0.3
	Young people (10–24 years) (%)	29.4
	Elderly population (60+ years) (%)	5.8
	Decadal growth rate, 1991–2001 (%)	33.2
	Population density (per sq km)	886

Sex Ratio (females per 1000 males)	1991	884
	2001	910
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	920
	2001	912
Literacy rate (7+)	Persons	39.1
	Males	51.7
	Females	25.3
Work participation rate	Total	39.1
	Female	28.4
Household amenities	Households with kutchha houses (%)	57.5
	Households with safe drinking water (%)	96.5
	Households with electricity connection (%)	6.9
Vital rates	Crude Birth Rate	35.5
	Total Fertility Rate	4.6
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	47.9
	Birth order 3 + (%)	62.6
	Current use of any FP Method (%)	37.7
	Total unmet need (%)	34.1
	Pregnant women with any ANC (%)	28.9
	Pregnant women with 3+ ANCs (%)	14.7
	Pregnant women received IFA tablets (%)	3.5
	Safe delivery (%)	21.5
	Institutional delivery (%)	16.4
	Children with full immunization (%)	22.9
Communicable Diseases	Kala-azar prevalence (%)	8.2
	TB incidence (%)	2.6
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	1.1
Women's Health Awareness	Aware of RTI/ STI (%)	99.5
	Aware of HIV/ AIDS (%)	30.1
Health Infrastructure	CHCs	0
	PHCs	40
	Sub-Centres	152

SAMASTIPUR

General information
Area (sq km): 2904
Community Development Blocks: 20

As proportion of state's area: 3.1%
Towns: 4 Villages: 1230

Demographic particulars (Census, 2001)

Population	Persons	3394793
	Males	1760692
	Females	1634101
	Rural (%)	96.4
	Urban (%)	3.9
	Scheduled Castes (%)	18.5
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	29.5
	Elderly population (60+ years) (%)	6.7
	Decadal growth rate, 1991–2001 (%)	24.9
	Population density (per sq km)	1169

Sex Ratio (females per 1000 males)	1991	926
	2001	928
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	942
	2001	938
Literacy rate (7+)	Persons	45.1
	Males	57.6
	Females	31.7
Work participation rate	Total	31.6
	Female	15.1
Household amenities	Households with kutchha houses (%)	25.7
	Households with safe drinking water (%)	86.7
	Households with electricity connection (%)	7.4
Vital rates	Crude Birth Rate	34.8
	Total Fertility Rate	4.9
	Infant Mortality Rate	78
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	67.7
	Birth order 3 + (%)	58.6
	Current use of any FP Method (%)	22.7
	Total unmet need (%)	42.6
	Pregnant women with any ANC (%)	23.4
	Pregnant women with 3+ ANCs (%)	8.8
	Pregnant women received IFA tablets (%)	8.5
	Safe delivery (%)	19.1
	Institutional delivery (%)	11.1
	Children with full immunization (%)	16.0
Communicable Diseases	Kala-azar prevalence (%)	6.7
	TB incidence (%)	4.2
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0.7
Women's Health Awareness	Aware of RTI/ STI (%)	87.0
	Aware of HIV/ AIDS (%)	17.8
Health Infrastructure	CHCs	1
	PHCs	73
	Sub-Centres	354

SARAN

General information
Area (sq km): 2641
Community Development Blocks: 20

As proportion of state's area: 2.8%
Towns: 5 Villages: 1708

Demographic particulars (Census, 2001)

Population	Persons	3248701
	Males	1652661
	Females	1596040
	Rural (%)	90.8
	Urban (%)	9.2
	Scheduled Castes (%)	12.0
	Scheduled Tribes (%)	0.2
	Young people (10–24 years) (%)	30.2
	Elderly population (60+ years) (%)	8.0
	Decadal growth rate, 1991–2001 (%)	26.3
	Population density (per sq km)	1230

Sex Ratio (females per 1000 males)	1991	963
	2001	966
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	960
	2001	949
Literacy rate (7+)	Persons	81.8
	Males	67.3
	Females	35.8
Work participation rate	Total	26.5
	Female	10.4
Household amenities	Households with kutchha houses (%)	12.6
	Households with safe drinking water (%)	86.9
	Households with electricity connection (%)	7.1
Vital rates	Crude Birth Rate	32.6
	Total Fertility Rate	4.7
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	28.9
	Birth order 3 + (%)	58.6
	Current use of any FP Method (%)	30.5
	Total unmet need (%)	36.6
	Pregnant women with any ANC (%)	32.7
	Pregnant women with 3+ ANCs (%)	18.2
	Pregnant women received IFA tablets (%)	10.0
	Safe delivery (%)	22.3
	Institutional delivery (%)	15.9
	Children with full immunization (%)	35.3
Communicable Diseases	Kala-azar prevalence (%)	4.9
	TB incidence (%)	2.7
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	95.8
	Aware of HIV/ AIDS (%)	35.1
Health Infrastructure	CHCs	3
	PHCs	60
	Sub-Centres	413

SHEIKHPURA

General information
Area (sq. km): 689
Community Development Blocks: 6

As proportion of state's area: 0.7%
Towns: 2 Villages: 315

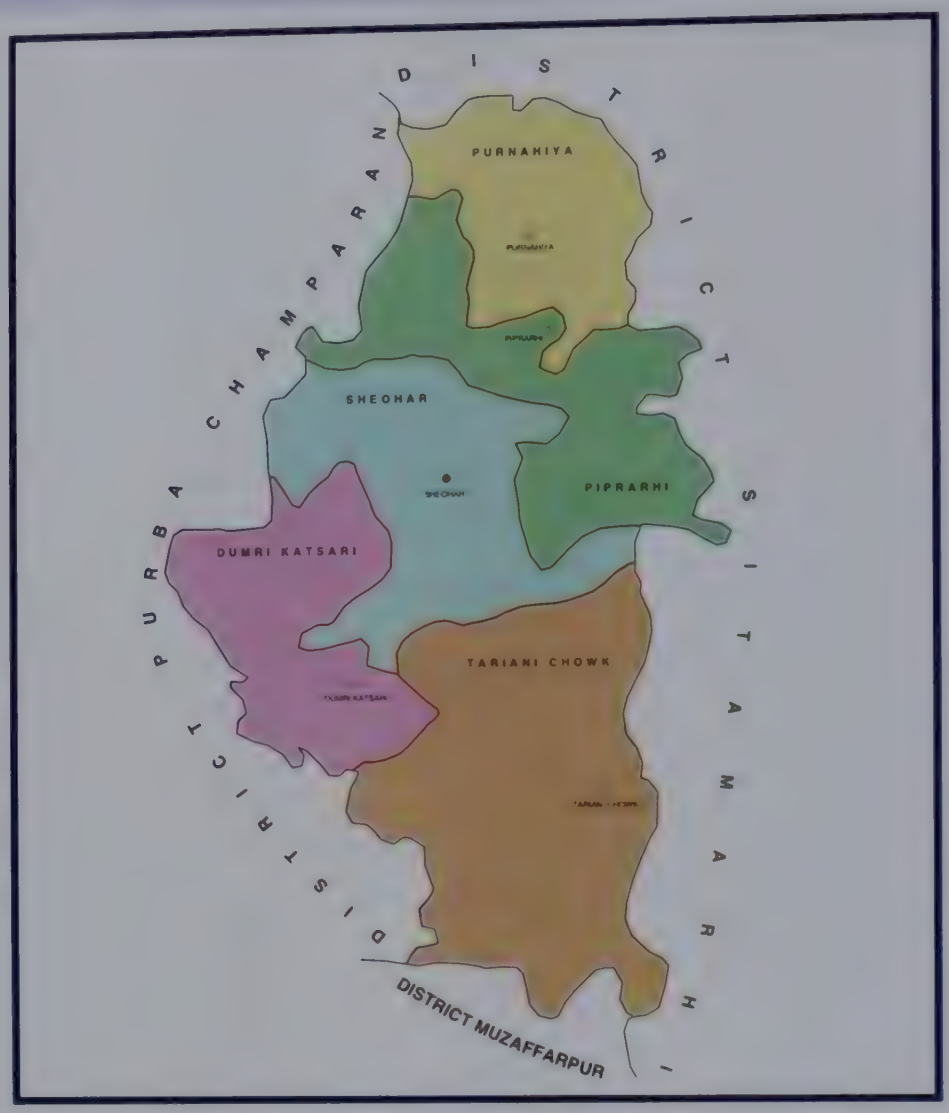
Demographic particulars (Census, 2001)

Population	Persons	525502
	Males	273992
	Females	251510
	Rural (%)	84.5
	Urban (%)	15.5
	Scheduled Castes (%)	19.7
	Scheduled Tribes (%)	0.0
	Young people (10–24 years) (%)	29.9
	Elderly population (60+ years) (%)	6.7
	Decadal growth rate, 1991–2001 (%)	25.0
	Population density (per sq km)	793

Sex Ratio (females per 1000 males)	1991	896
	2001	918
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	965
	2001	955
Literacy rate (7+)	Persons	48.6
	Males	61.9
	Females	33.9
Work participation rate	Total	37.0
	Female	25.0
Household amenities	Households with kutchha houses (%)	11.5
	Households with safe drinking water (%)	55.4
	Households with electricity connection (%)	10.1
Vital rates	Crude Birth Rate	34.3
	Total Fertility Rate	4.7
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	85.0
	Birth order 3 + (%)	56.7
	Current use of any FP Method (%)	23.9
	Total unmet need (%)	43.1
	Pregnant women with any ANC (%)	37.0
	Pregnant women with 3+ ANCs (%)	23.0
	Pregnant women received IFA tablets (%)	5.7
	Safe delivery (%)	44.9
	Institutional delivery (%)	23.1
	Children with full immunization (%)	18.5
Communicable Diseases	Kala-azar prevalence (%)	0
	TB incidence (%)	0.4
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	62.7
	Aware of HIV/ AIDS (%)	26.2
Health Infrastructure	CHCs	1
	PHCs	21
	Sub-Centres	74

SHEOHAR

General information
Area (sq km): 443 As proportion of state's area: 0.5%
Community Development Blocks: 5 Towns: 1 Villages: 213



Demographic particulars (Census, 2001)

Population	Persons	515961
	Males	273680
	Females	242281
	Rural (%)	95.9
	Urban (%)	4.1
	Scheduled Castes (%)	14.4
	Scheduled Tribes (%)	0.0
	Young people (10–24 years) (%)	28.2
	Elderly population (60+ years) (%)	6.9
	Decadal growth rate, 1991–2001 (%)	36.6
	Population density (per sq km)	1165

Sex Ratio (females per 1000 males)	1991	876
	2001	885
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	946
	2001	916
Literacy rate (7+)	Persons	35.3
	Males	45.3
	Females	23.9
Work participation rate	Total	31.2
	Female	9.8
Household amenities	Households with kutchha houses (%)	60.9
	Households with safe drinking water (%)	98.1
	Households with electricity connection (%)	3.1
Vital rates	Crude Birth Rate	35.8
	Total Fertility Rate	5.1
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	59.2
	Birth order 3 + (%)	58.4
	Current use of any FP Method (%)	19.7
	Total unmet need (%)	45.8
	Pregnant women with any ANC (%)	23.7
	Pregnant women with 3+ ANCs (%)	10.3
	Pregnant women received IFA tablets (%)	5.5
	Safe delivery (%)	16.1
	Institutional delivery (%)	8.4
	Children with full immunization (%)	18.3
Communicable Diseases	Kala-azar prevalence (%)	0
	TB incidence (%)	0.4
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	97.5
	Aware of HIV/ AIDS (%)	21.5
Health Infrastructure	CHCs	1
	PHCs	10
	Sub-Centres	34

SITAMARHI

General information
Area (sq km): 2200 As proportion of state's area: 2.3%
Community Development Blocks: 17 Towns: 5 Villages: 945

Demographic particulars (Census, 2001)

Population	Persons	2682720
	Males	1417611
	Females	1265109
	Rural (%)	94.3
	Urban (%)	5.7
	Scheduled Castes (%)	11.8
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	28.4
	Elderly population (60+ years) (%)	6.5
	Decadal growth rate, 1991–2001 (%)	33.2
	Population density (per sq km)	1219

Sex Ratio (females per 1000 males)	1991	884
	2001	892
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	921
	2001	924
Literacy rate (7+)	Persons	38.5
	Males	49.4
	Females	26.1
Work participation rate	Total	31.9
	Female	11.2
Household amenities	Households with kutchha houses (%)	34.1
	Households with safe drinking water (%)	98.0
	Households with electricity connection (%)	5.4
Vital rates	Crude Birth Rate	36.3
	Total Fertility Rate	5.1
	Infant Mortality Rate	42
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	56.0
	Birth order 3 + (%)	59.1
	Current use of any FP Method (%)	27.9
	Total unmet need (%)	38.3
	Pregnant women with any ANC (%)	27.9
	Pregnant women with 3+ ANCs (%)	13.6
	Pregnant women received IFA tablets (%)	6.5
	Safe delivery (%)	16.1
	Institutional delivery (%)	11.6
	Children with full immunization (%)	25.5
Communicable Diseases	Kala-azar prevalence (%)	3.5
	TB incidence (%)	3.2
	HIV + prevalence among STD Clinics	2.0
	HIV + prevalence among ANC Clinics	0.5
Women's Health Awareness	Aware of RTI/ STI (%)	95.2
	Aware of HIV/ AIDS (%)	21.4
Health Infrastructure	CHCs	1
	PHCs	51
	Sub-Centres	213

SIWAN

General information
Area (sq km): 2219 As proportion of state's area: 2.4%
Community Development Blocks: 19 Towns: 3 Villages: 1545

Demographic particulars (Census, 2001)

Population	Persons	2714349
	Males	1336283
	Females	1378066
	Rural (%)	94.5
	Urban (%)	5.5
	Scheduled Castes (%)	11.4
	Scheduled Tribes (%)	0.5
	Young people (10–24 years) (%)	30.6
	Elderly population (60+ years) (%)	8.0
	Decadal growth rate, 1991–2001 (%)	25.0
	Population density (per sq. km)	1223

Sex Ratio (females per 1000 males)	1991	1017
	2001	1031
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	963
	2001	934
Literacy rate (7+)	Persons	51.6
	Males	67.3
	Females	36.9
Work participation rate	Total	26.9
	Female	12.8
Household amenities	Households with kutchha houses (%)	16.3
	Households with safe drinking water (%)	96.4
	Households with electricity connection (%)	5.2
Vital rates	Crude Birth Rate	32.9
	Total Fertility Rate	4.6
	Infant Mortality Rate	41
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	39.5
	Birth order 3 + (%)	54.0
	Current use of any FP Method (%)	23.7
	Total unmet need (%)	45.7
	Pregnant women with any ANC (%)	43.3
	Pregnant women with 3+ ANCs (%)	22.9
	Pregnant women received IFA tablets (%)	6.8
	Safe delivery (%)	33.6
	Institutional delivery (%)	24.1
	Children with full immunization (%)	38.9
Communicable Diseases	Kala-azar prevalence (%)	3.4
	TB incidence (%)	1.7
	HIV + prevalence among STD Clinics	4.7
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	82.3
	Aware of HIV/ AIDS (%)	27.2
Health Infrastructure	CHCs	2
	PHCs	49
	Sub-Centres	370

SUPAUL

General information
Area (sq km): 2410 As proportion of state's area: 2.6%
Community Development Blocks: 11 Towns: 3 Villages: 591

Demographic particulars (Census, 2001)

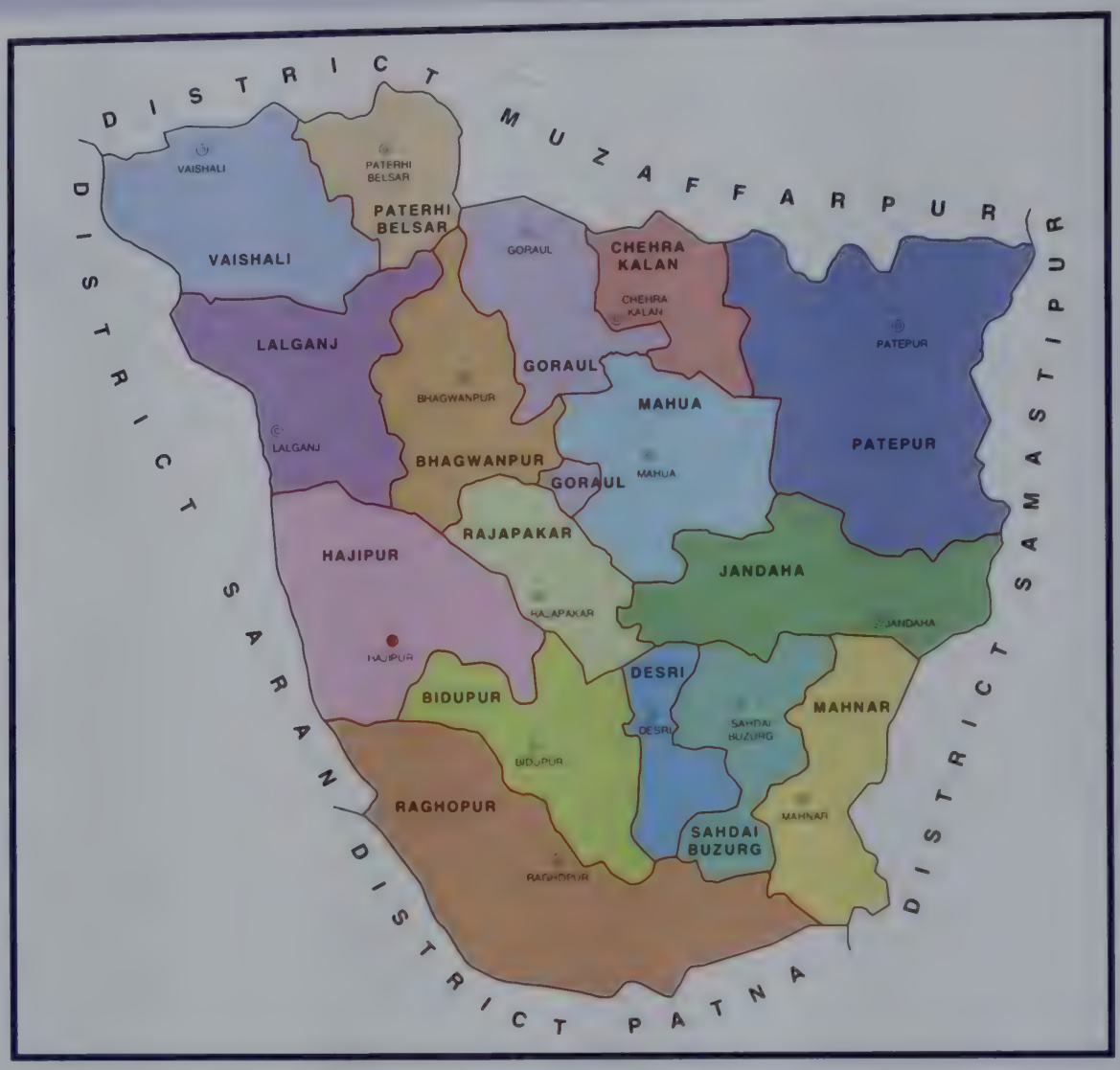
Population	Persons	1732578
	Males	902207
	Females	830371
	Rural (%)	94.9
	Urban (%)	5.1
	Scheduled Castes (%)	14.8
	Scheduled Tribes (%)	0.3
	Young people (10–24 years) (%)	28.5
	Elderly population (60+ years) (%)	5.8
	Decadal growth rate, 1991–2001 (%)	29.0
	Population density (per sq km)	719

Sex Ratio (females per 1000 males)	1991	904
	2001	920
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	941
	2001	925
Literacy rate (7+)	Persons	37.3
	Males	52.4
	Females	20.8
Work participation rate	Total	42.0
	Female	33.0
Household amenities	Households with kutchha houses (%)	78.3
	Households with safe drinking water (%)	97.4
	Households with electricity connection (%)	4.7
Vital rates	Crude Birth Rate	36.2
	Total Fertility Rate	4.7
	Infant Mortality Rate	NA
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	61.1
	Birth order 3 + (%)	51.6
	Current use of any FP Method (%)	36.4
	Total unmet need (%)	25.0
	Pregnant women with any ANC (%)	24.9
	Pregnant women with 3+ ANCs (%)	9.7
	Pregnant women received IFA tablets (%)	3.3
	Safe delivery (%)	27.8
	Institutional delivery (%)	12.5
	Children with full immunization (%)	15.7
Communicable Diseases	Kala-azar prevalence (%)	2.3
	TB incidence (%)	1.1
	HIV + prevalence among STD Clinics	0.4
	HIV + prevalence among ANC Clinics	0
Women's Health Awareness	Aware of RTI/ STI (%)	85.4
	Aware of HIV/ AIDS (%)	15.4
Health Infrastructure	CHCs	1
	PHCs	37
	Sub-Centres	178

VAISHALI

General information
Area (sq km): 2036
Community Development Blocks: 16

As proportion of state's area: 2.2%
Towns: 3 Villages: 1889



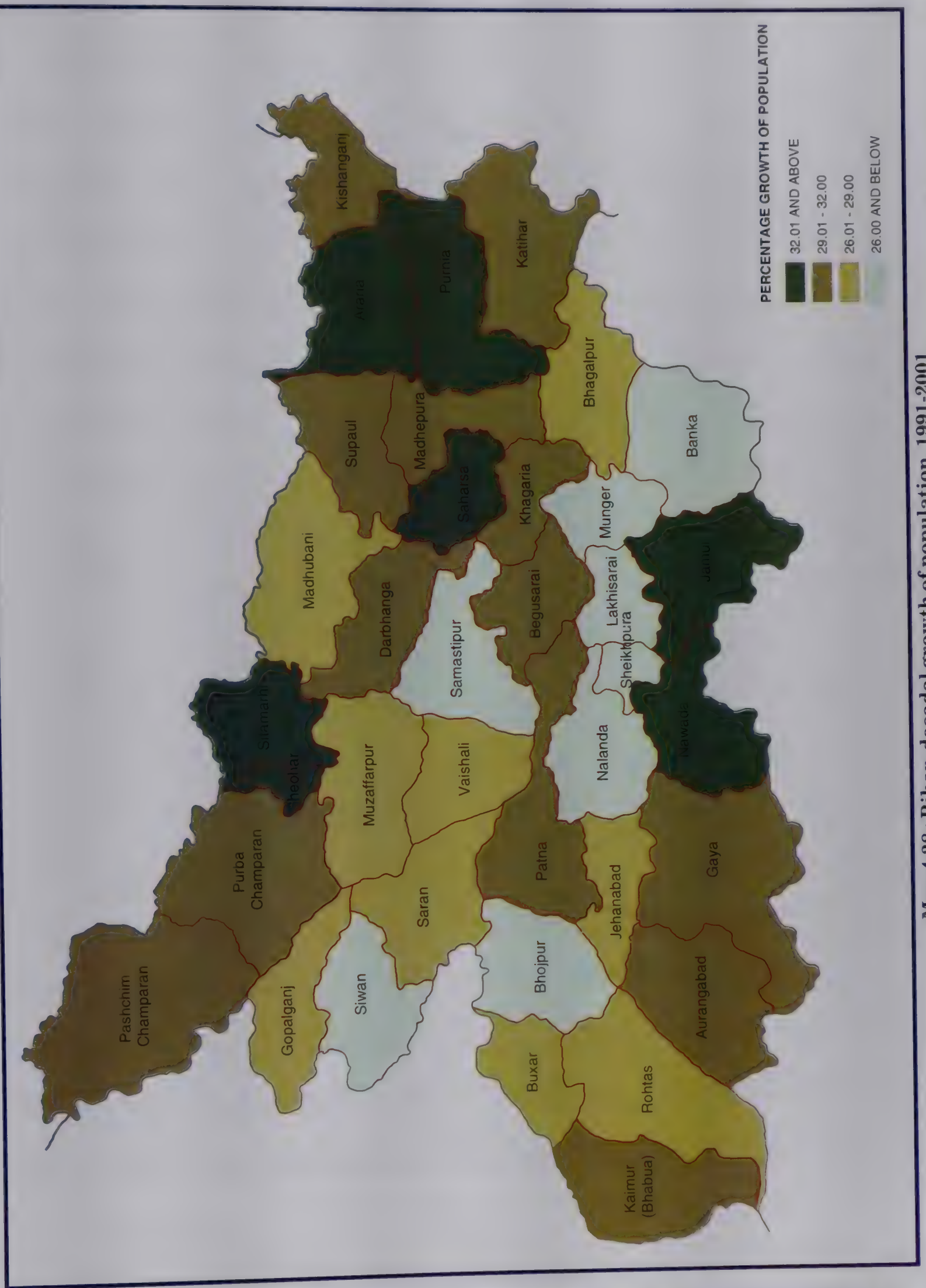
Demographic particulars (Census, 2001)

Population	Persons	2718421
	Males	1415603
	Females	1302818
	Rural (%)	93.1
	Urban (%)	6.9
	Scheduled Castes (%)	20.7
	Scheduled Tribes (%)	0.1
	Young people (10–24 years) (%)	29.6
	Elderly population (60+ years) (%)	7.3
	Decadal growth rate, 1991–2001 (%)	26.7
	Population density (per sq km)	1335

Sex Ratio (females per 1000 males)	1991	921
	2001	920
Child Sex Ratio (0–6 years) (girls per 1000 boys)	1991	946
	2001	937
Literacy rate (7+)	Persons	50.5
	Males	63.2
	Females	36.6
Work participation rate	Total	28.8
	Female	10.9
Household amenities	Households with kutchha houses (%)	26.8
	Households with safe drinking water (%)	77.7
	Households with electricity connection (%)	9.0
Vital rates	Crude Birth Rate	31.9
	Total Fertility Rate	4.6
	Infant Mortality Rate	61
RCH indicators from DLHS, 2002–04		
Key RCH indicators	Girls marrying below 18 years (%)	61.6
	Birth order 3 + (%)	50.0
	Current use of any FP Method (%)	33.0
	Total unmet need (%)	37.0
	Pregnant women with any ANC (%)	46.4
	Pregnant women with 3+ ANCs (%)	25.3
	Pregnant women received IFA tablets (%)	6.7
	Safe delivery (%)	37.8
	Institutional delivery (%)	23.1
	Children with full immunization (%)	26.1
Communicable Diseases	Kala-azar prevalence (%)	11.4
	TB incidence (%)	4.3
	HIV + prevalence among STD Clinics	0
	HIV + prevalence among ANC Clinics	0.5
Women's Health Awareness	Aware of RTI/ STI (%)	93.4
	Aware of HIV/ AIDS (%)	31.8
Health Infrastructure	CHCs	2
	PHCs	47
	Sub-Centres	336

Table. 4.1. District-wise Key RCH Indicators, Bihar, RCH-2 (DLHS: 2002–04)

District	Sex ratio	Population Density	% Decadal Growth rate	Female Literacy	Girls Marrying below 18 (%)	% of Births of Order 3 and above	CPR	% of women with any ANC	% of Safe Delivery	% of Children with Complete Immunization
Araria	913	763	33.9	22.4	50.5	56.3	31.2	34.2	20.6	19.6
Arwal					60.4	57.9	28.2	33.6	42.6	16.8
Aurangabad	934	609	30.7	41.9	45.6	53.7	25.7	37.8	28.7	32.6
Banka	908	533	24.5	28.7	56.0	54.4	36.9	38.5	36.4	25.6
Begusarai	912	1225	29.5	35.6	50.6	52.6	27.6	33.5	28.7	21.4
Bhagalpur	876	943	26.9	38.1	42.6	51.9	39.6	48.5	41.6	42.8
Bhojpur	902	907	25.1	41.8	55.3	54.0	36.9	31.3	49.0	32.3
Buxar	899	864	28.9	39.9	59.2	55.1	31.0	38.2	40.9	22.0
Champaran East	897	993	29.5	24.3	59.0	54.9	27.8	42.6	27.2	14.6
Champaran West	901	582	30.4	25.2	63.9	57.0	24.6	35.1	37.1	7.6
Darbhanga	914	1446	31.3	30.8	49.8	56.5	31.9	33.3	25.5	22.0
Gaya	938	698	30.3	36.7	54.7	50.5	28.4	33.0	37.9	14.4
Gopalganj	1001	1059	26.3	32.2	34.6	54.2	30.1	53.3	35.2	39.0
Jamui	918	452	33.0	26.3	64.7	49.8	28.9	43.7	27.4	13.1
Jehanabad	929	965	28.9	39.4	60.4	55.9	28.2	33.6	42.6	16.8
Kaimur	902	383	31.1	38.8	48.6	54.5	29.2	40.1	44.1	12.5
Katihar	919	783	31.1	23.8	46.2	56.4	33.6	36.1	28.8	17.5
Khagaria	885	862	29.7	29.3	58.2	59.4	30.8	23.3	20.2	21.1
Kishanganj	936	688	31.7	18.6	42.6	65.6	23.1	28.3	20.5	7.9
Lakhisarai	921	653	24.1	34.0	57.4	50.0	32.6	40.4	30.9	23.2
Madhepura	915	854	29.6	22.1	54.3	50.4	31.5	27.5	21.7	21.7
Madhubani	942	1021	3.5	26.2	60.8	54.7	30.4	36.0	15.4	15.5
Munger	872	802	20.6	47.4	48.3	50.7	38.6	48.1	47.3	26.4
Muzaffarpur	920	1181	26.8	35.8	44.5	51.9	32.5	40.4	31.0	35.9
Nalanda	914	1007	18.7	38.6	59.6	59.1	26.4	33.2	38.0	21.8
Nawada	946	726	33.1	32.2	58.1	55.1	28.8	35.1	34.1	25.4
Patna	873	1474	30.4	50.8	44.7	48.1	36.8	52.4	49.2	39.9
Purnia	915	788	35.4	23.4	42.2	59.6	30.0	26.3	19.0	28.5
Rohtas	909	636	27.8	45.7	46.8	46.5	35.0	52.4	50.5	24.6
Saharsa	910	886	33.2	25.3	47.9	62.6	37.7	28.9	21.5	22.9
Samatipur	928	1169	24.9	31.7	67.7	58.6	22.7	23.4	19.1	16.0
Saran	966	1230	26.3	35.8	28.9	58.6	30.5	32.7	22.3	35.3
Sheikhpura	918	763	25.0	33.9	85.0	56.7	23.9	37.0	44.9	18.5
Sheohar	885	1165	36.6	23.9	59.2	58.4	19.7	23.7	16.1	18.3
Sitamarhi	892	1219	33.2	26.1	56.0	59.1	27.9	27.9	16.1	25.5
Siwan	1031	1223	25.0	36.9	39.5	54.0	23.7	43.3	33.6	38.9
Supaul	920	719	29.	20.8	61.1	51.6	36.4	24.9	27.8	52.8
Vaishali	920	1335	26.7	36.6	61.6	50.0	33.0	46.4	37.8	26.1

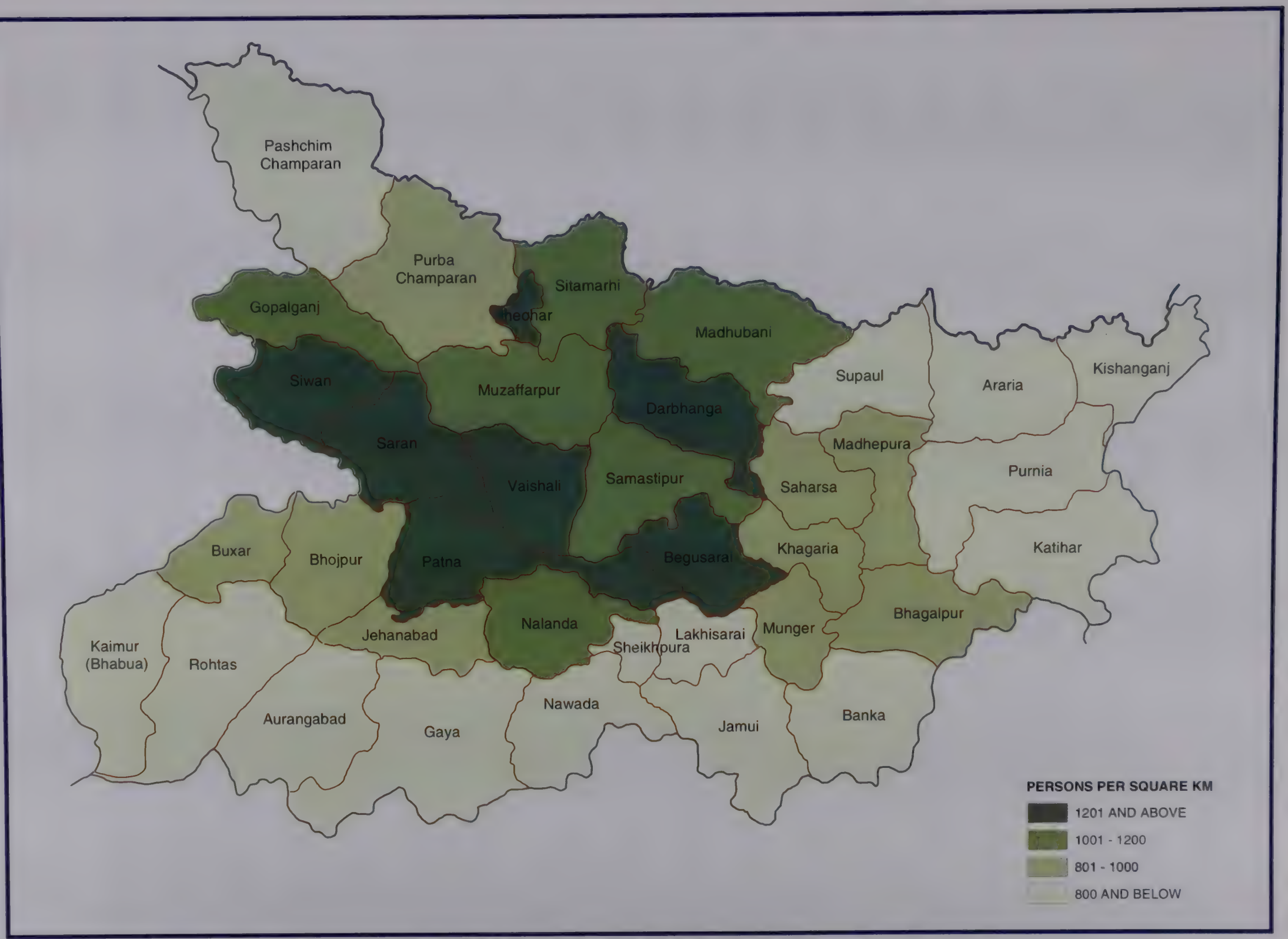


Map 4.38 : Bihar, decadal growth of population, 1991-2001

Table 4.2. Ranking of Districts According to Decadal Population Growth Rate (%)

Rank in 2001	District	1991–2001	1981–1991	Rank in 1991
1	Sheohar	36.61	23.77	15
2	Purnia	35.40	23.76	17
3	Araria	33.94	26.69	5
4	Sitamarhi	33.22	23.77	16
5	Saharsa	33.18	24.40	12
6	Nawada	33.10	23.70	18
7	Jamui	33.03	20.15	29
8	Kishanganj	31.73	22.20	22
9	Darbhanga	31.26	25.04	9
10	Kaimur (Bhabua)	31.10	22.58	20
11	Katihar	31.08	27.77	4
12	Aurangabad	30.72	24.49	11
13	Pashchim Champaran	30.42	18.30	37
14	Patna	30.41	19.84	33
15	Gaya	30.34	23.92	14
16	Khagaria	29.69	28.44	2
17	Madhepura	29.63	22.16	25
18	Purba Champaran	29.47	25.46	6
19	Begusarai	29.46	24.61	10
20	Supaul	29.02	24.40	13
21	Buxar	28.94	19.64	34
22	Jehanabad	28.89	19.43	36
23	Rohtas	27.82	22.58	21
24	Bhagalpur	26.87	22.17	23
25	Muzaffarpur	26.84	25.30	7
26	Vaishali	26.67	29.08	1
27	Gopalganj	26.31	25.12	8
28	Saran	26.26	23.44	19
29	Madhubani	26.24	21.76	27
30	Bhojpur	25.12	19.64	35
31	Sheikhpura	25.04	20.15	30
32	Siwan	25.03	22.04	26
33	Samastipur	24.95	28.35	3
34	Banka	24.47	22.17	24
35	Lakhisarai	24.11	20.15	31
36	Munger	20.58	20.15	32
37	Nalanda	18.75	21.73	28
	Bihar	31.14	23.54	

Note: According to the 2001 census, the growth rate of population during 1991–2001 for the state was 31.14% as compared to 23.54% for 1981–1991. Among the districts, Sheohar (36.61) has the highest decadal growth rate, followed by Purnia (35.40) and Araria (33.94). Nalanda (18.75) has the lowest decadal growth rate, followed by Munger (20.58) and Lakhisarai (24.11).

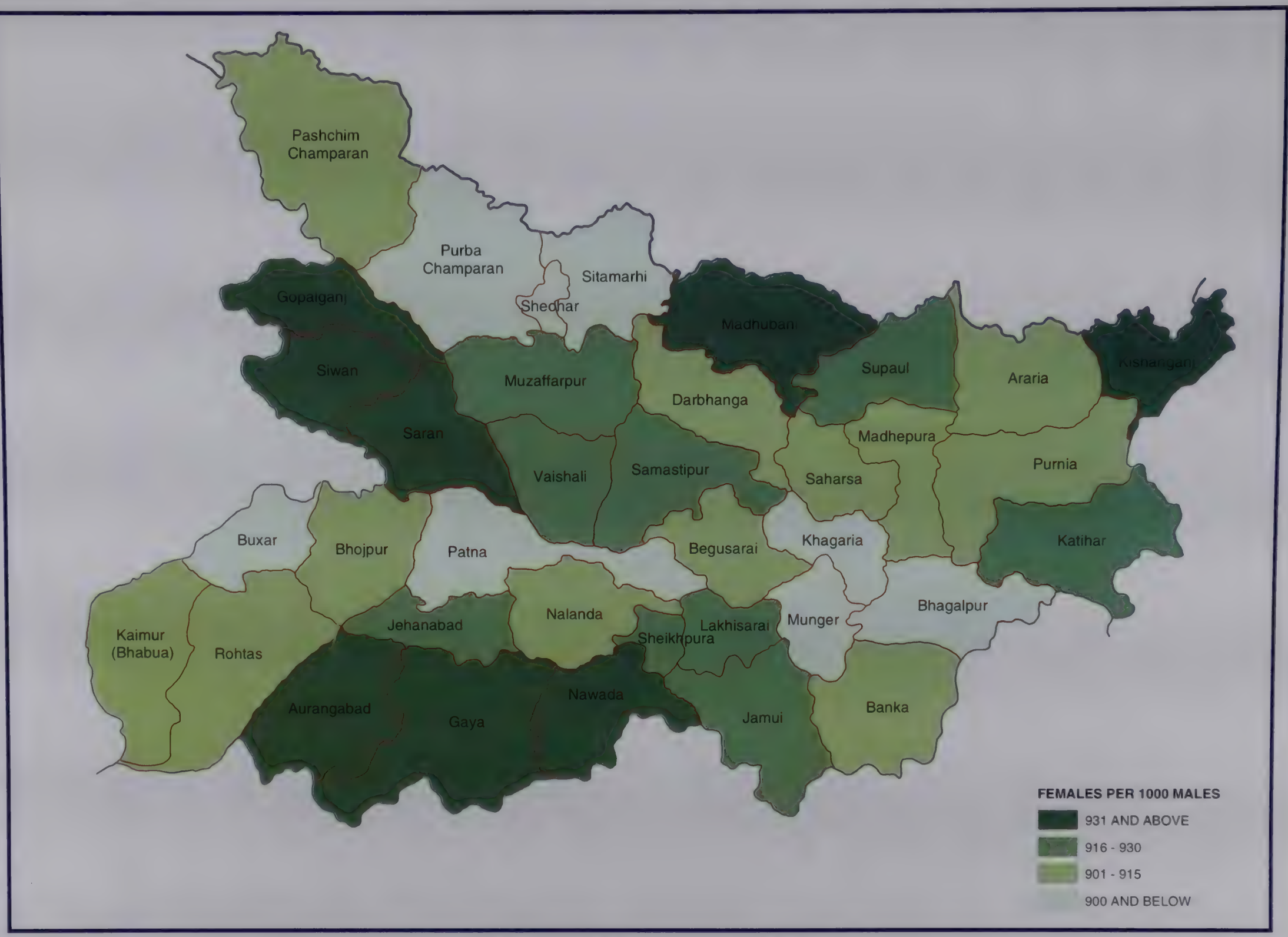


Map 4.39 : Bihar, density of population, 2001

Table 4.3. Ranking of Districts According to Density of Population (per sq km)

Rank in 2001	District	Census 2001	Census 1991	Rank in 1991
1	Kaimur (Bhabua)	383	402	1
2	Jamui	452	476	7
3	Banka	533	573	14
4	Pashchim Champaran	582	446	3
5	Aurangabad	609	466	4
6	Rohtas	636	402	2
7	Lakhisarai	653	476	6
8	Kishanganj	688	522	9
9	Gaya	698	536	10
10	Supaul	719	602	17
11	Nawada	726	545	11
12	Sheikhpura	763	476	5
13	Araria	763	569	12
14	Katihar	783	597	16
15	Purnia	788	582	15
16	Munger	802	476	8
17	Madhepura	854	659	19
18	Khagaria	862	664	20
19	Buxar	864	703	22
20	Saharsa	886	602	18
21	Bhojpur	907	703	21
22	Bhagalpur	943	573	13
23	Jehanabad	965	749	23
24	Purba Champaran	993	767	24
25	Nalanda	1007	844	27
26	Madhubani	1021	809	25
27	Gopalganj	1059	838	26
28	Sheohar	1165	905	28
29	Samastipur	1169	936	31
30	Muzaffarpur	1181	931	30
31	Sitamarhi	1219	905	29
32	Siwan	1223	978	34
33	Begusarai	1225	946	32
34	Saran	1230	974	33
35	Vaishali	1335	1054	35
36	Darbhanga	1446	1102	36
37	Patna	1474	1130	37
	Bihar	665	497	

Note: According to the 2001 census, Bihar has a high density of population, with 665 persons per sq km, as compared to 497 during the 1991 census. Among the districts, Kaimur (Bhabua) has the lowest density of population (383), followed by Jamui (452) and Banka (533). Patna (1474) has the highest density of population, followed by Darbhanga (1446) and Vaishali (1335).

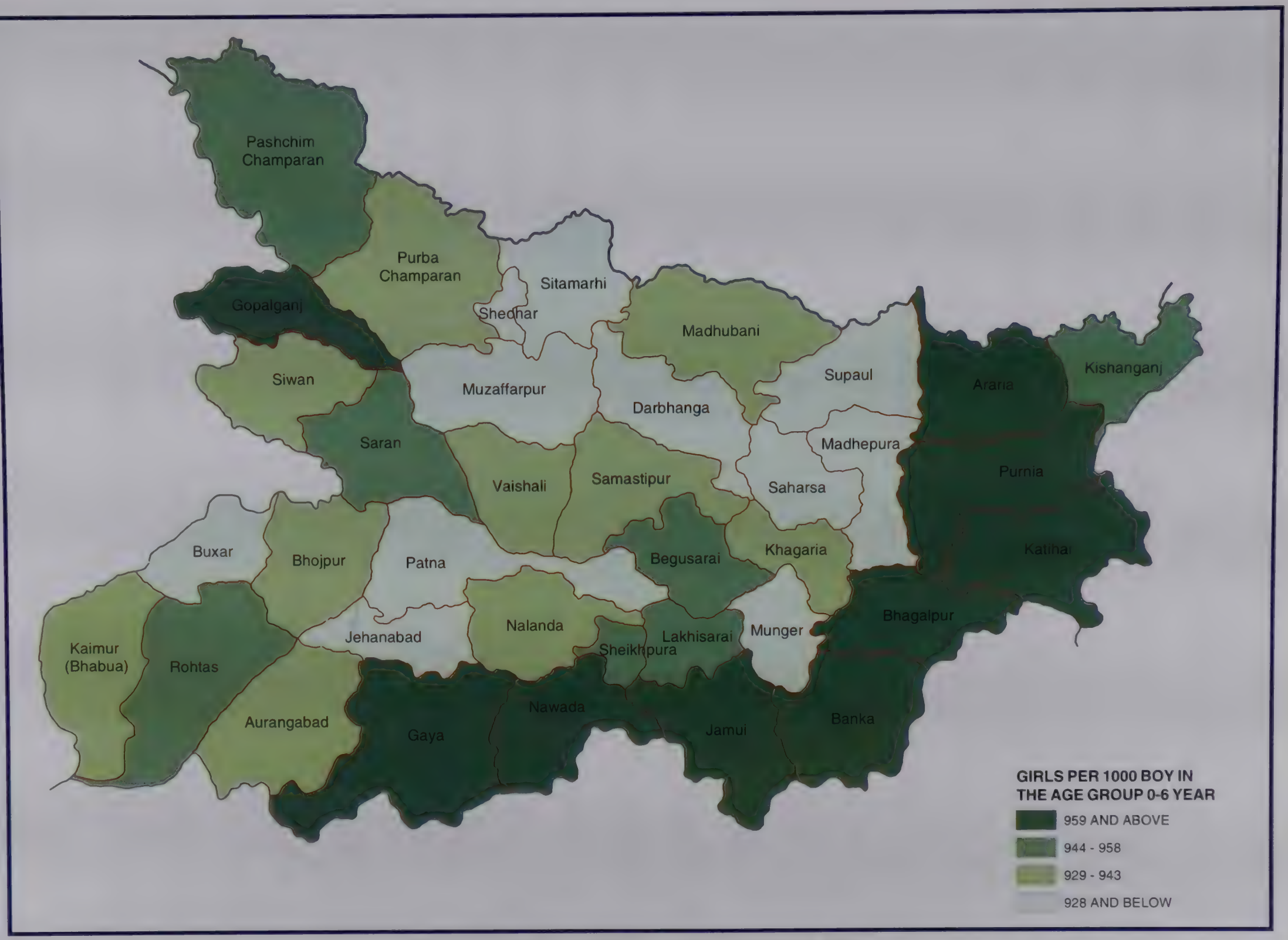


Map 4.40 : Bihar, sex ratio, 2001

Table 4.4. Ranking of Districts According to Sex Ratio

Rank in 2001	District	Census 2001	Census 1991	Rank in 1991
1	Siwan	1031	1017	1
2	Gopalganj	1001	968	2
3	Saran	966	963	3
4	Nawada	946	936	4
5	Madhubani	942	932	6
6	Gaya	938	922	8
7	Kishanganj	936	933	5
8	Aurangabad	934	915	11
9	Jehanabad	929	919	10
10	Samastipur	928	926	7
11	Lakhisarai	921	882	28
12	Muzaffarpur	920	904	15
13	Supaul	920	895	21
14	Vaishali	920	921	9
15	Katihar	919	909	13
16	Jamui	918	882	27
17	Sheikhpura	918	882	29
18	Madhepura	915	885	25
19	Purnia	915	903	16
20	Darbhanga	914	911	12
21	Nalanda	914	898	18
22	Araria	913	907	14
23	Begusarai	912	898	17
24	Saharsa	910	895	22
25	Rohtas	909	891	24
26	Banka	908	876	34
27	Bhojpur	902	896	20
28	Kaimur (Bhabua)	902	891	23
29	Pashchim Champaran	901	877	33
30	Buxar	899	896	19
31	Purba Champaran	897	883	26
32	Sitamarhi	892	882	32
33	Khagaria	885	868	36
34	Sheohar	885	882	31
35	Bhagalpur	876	876	35
36	Patna	873	867	37
37	Munger	872	882	30
	Bihar	919	911	

Note: According to the 2001 census Bihar has shown a decline in sex ratio, with 942 girls per 1000 boys as compared to 953 the previous decade. The district with the highest sex ratio is Nawada (987), followed by Gaya (968) and Purnia (967). The district with the lowest sex ratio is Munger (872), followed by Patna (873) and Bhagalpur (872).

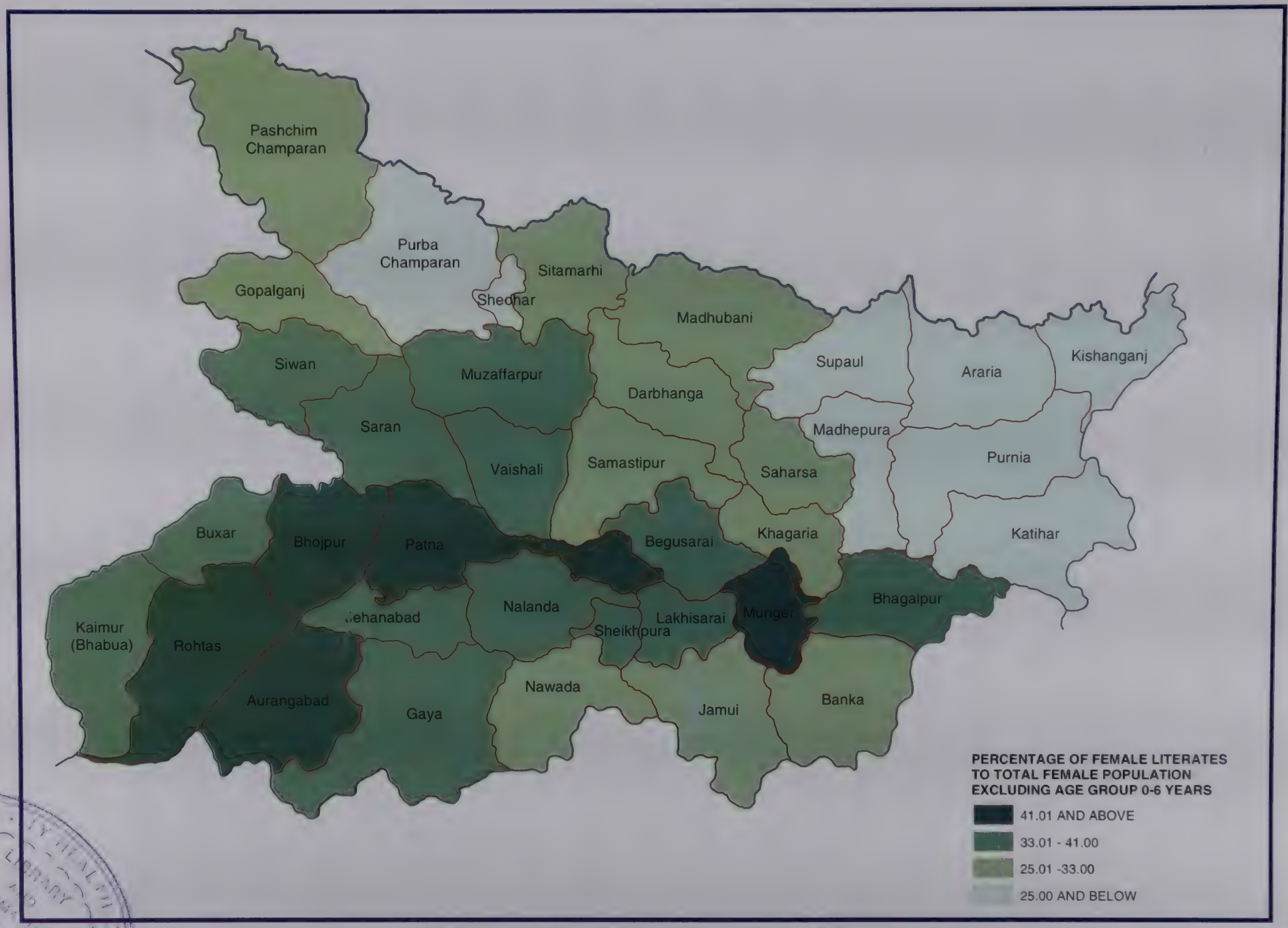


Map 4.41 : Bihar, child sex ratio, 0-6 year, 2001

Table 4.5. Ranking of Districts According to Child Sex Ratio

Rank in 2001	District	Census 2001	Census 1991	Rank in 1991
1	Nawada	978	974	5
2	Gaya	968	983	2
3	Purnia	967	965	11
4	Bhagalpur	966	944	24
5	Katihar	966	975	4
6	Banka	965	969	7
7	Gopalganj	964	966	10
8	Araria	963	986	1
9	Jamui	963	967	8
10	Sheikhpura	955	964	13
11	Pashchim Champaran	953	963	14
12	Lakhisarai	951	956	19
13	Rohtas	951	965	12
14	Saran	949	960	18
15	Kishanganj	947	982	3
16	Begusarai	946	961	17
17	Aurangabad	943	970	6
18	Nalanda	942	962	16
19	Bhojpur	940	924	33
20	Kaimur (Bhabua)	940	918	36
21	Madhubani	939	953	21
22	Samastipur	938	942	28
23	Sitamarhi	938	921	34
24	Purba Champaran	937	944	25
25	Vaishali	937	946	22
26	Siwan	934	963	15
27	Khagaria	932	943	26
28	Muzaffarpur	928	943	27
29	Madhepura	927	942	29
30	Buxar	925	905	37
31	Supaul	925	941	30
32	Patna	923	937	31
33	Jehanabad	917	967	9
34	Sheohar	916	946	23
35	Darbhanga	915	954	20
36	Munger	914	934	32
37	Saharsa	912	920	35
	Bihar	942	953	

Note: According to the 2001 census Bihar has shown a decline in child sex ratio, with 942 girls per 1000 boys, as compared to 953 the previous decade. The district with the highest child sex ratio is Nawada (987), followed by Gaya (968) and Purnia (967). The district with the most unfavourable child sex ratio is Saharsa (912), followed by Munger (914) and Darbhanga (915).

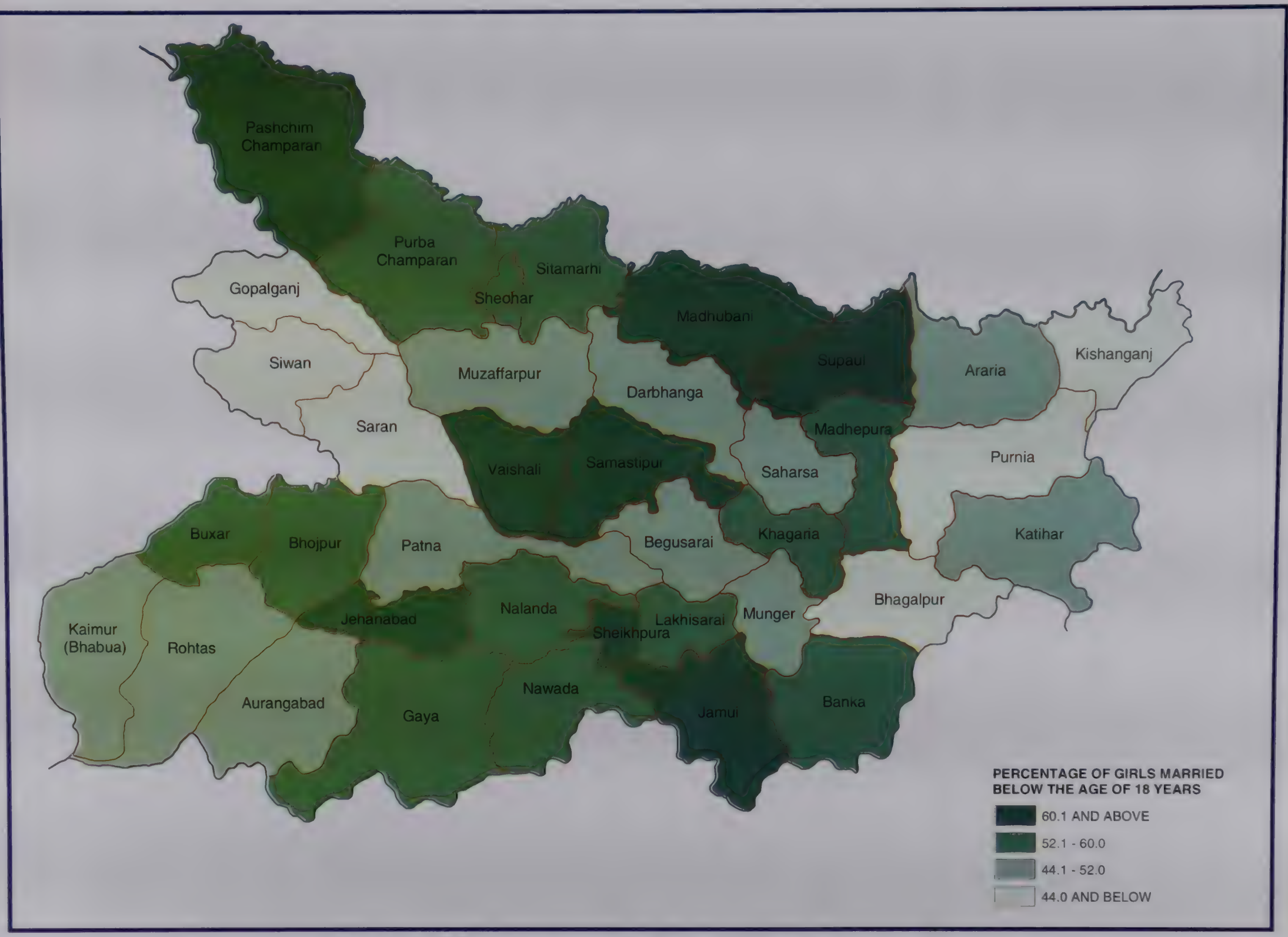


Map 4.42 : Bihar, female literacy rate, 2001

Table 4.6. Ranking of Districts According to Female Literacy

Rank in 2001	District	Census 2001	Census 1991	Rank in 1991
1	Patna	50.8	60.8	1
2	Munger	47.4	42.8	13
3	Rohtas	45.7	51.4	4
4	Aurangabad	41.9	51.8	2
5	Bhojpur	41.8	47.8	8
6	Buxar	39.9	47.8	7
7	Jehanabad	39.4	49.2	6
8	Kaimur (Bhabua)	38.8	51.4	3
9	Nalanda	38.6	50.4	5
10	Bhagalpur	38.1	38.5	20
11	Siwan	36.9	40.3	17
12	Gaya	36.7	42.1	15
13	Vaishali	36.6	45.2	9
14	Saran	35.8	42.7	14
15	Muzaffarpur	35.8	37	22
16	Begusarai	35.6	40.3	18
17	Lakhisarai	34.0	42.8	10
18	Sheikhpura	33.9	42.8	11
19	Darbhanga	33.6	36.2	23
20	Nawada	32.2	41.3	16
21	Gopalganj	32.2	33.3	25
22	Samastipur	31.7	37.7	21
23	Khagaria	29.3	33.6	24
24	Banka	28.7	38.5	19
25	Jamui	26.3	42.8	12
26	Madhubani	26.2	31.6	26
27	Sitamarhi	26.1	28.7	28
28	Saharsa	25.3	25.7	35
29	Pashchim Champaran	25.2	27.5	29
30	Purba Champaran	24.3	27.2	31
31	Sheohar	23.9	28.7	27
32	Katihar	23.8	27.3	30
33	Purnia	23.4	27.2	32
34	Araria	22.4	23.1	36
35	Madhepura	22.1	25.8	33
36	Supaul	20.8	25.7	34
37	Kishanganj	18.6	17.4	37
	Bihar	39.4	39.9	

Note: According to the 2001 census female literacy in the state was 39.4 as compared to 39.9 in the 1991 census. The district with the highest female literacy was Patna (50.8), followed by Munger (47.4) and Rohtas (45.7). The districts with low female literacy were Kishanganj (18.6), Supaul (20.8) and Madhepura (22.1).

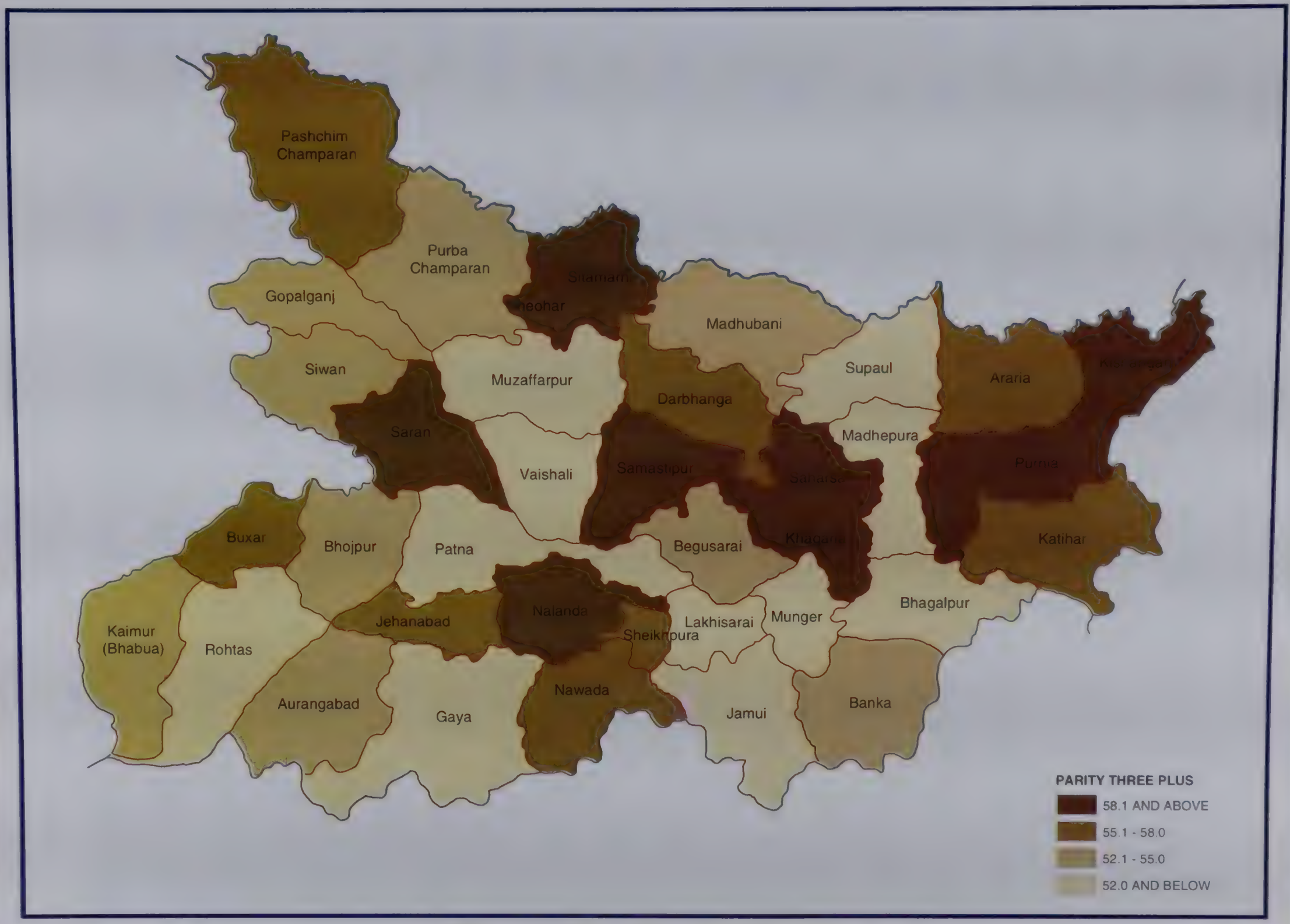


Map 4.43 : Bihar, girls marrying below the age of 18 years (%)

Table 4.7. Ranking of Districts According to Girls Marrying Below the Age of 18 Years (%)

Rank in 2002–04	District	DLHS 2002–04	DRHS 1998-99	Rank in 1998-99
1	Saran	28.9	51.3	8
2	Gopalganj	34.6	58.4	14
3	Siwan	39.5	43.6	2
4	Purnia	42.2	48.6	5
5	Bhagalpur	42.6	58.8	17
6	Kishanganj	42.6	48.2	4
7	Muzaffarpur	44.5	53.4	9
8	Patna	44.7	40.8	1
9	Aurangabad	45.6	63.5	26
10	Katihar	46.2	47.5	3
11	Rohtas	46.8	69.6	35
12	Saharsa	47.9	56.5	11
13	Munger	48.3	60.6	21
14	Kaimur (Bhabua)	48.6	69.6	34
15	Darbhanga	49.8	51.3	7
16	Araria	50.5	51.2	6
17	Begusarai	50.6	58.6	15
18	Madhepura	54.3	66.4	33
19	Gaya	54.7	62.0	23
20	Bhojpur	55.3	56.7	13
21	Banka	56.0	58.8	16
22	Sitamarhi	56.0	64.7	31
23	Lakhisarai	57.4	60.6	20
24	Khagaria	58.2	63.9	27
25	Nawada	58.6	72.9	36
26	Purba Champaran	59.0	63.0	24
27	Sheohar	59.2	64.7	30
28	Buxar	59.2	65.4	32
29	Nalanda	59.6	59.2	18
30	Jehanabad	60.4	54.5	10
31	Madhubani	60.8	64.1	28
32	Supaul	61.1	56.5	12
33	Vaishali	61.6	63.4	25
34	Pashchim Champaran	63.9	79.4	37
35	Jamui	64.7	60.6	19
36	Samastipur	67.7	64.1	29
37	Sheikhpura	85.0	60.6	22
	Bihar	51.5	58.2	

Note: According to RCH-DLHS 2002–04, girls married below the age of 18 years in Bihar is 51.5%. The district of Sheikhpura (85.0) has the highest percentage followed by Samastipur (67.7) and Jamui (64.7). At the lower end of the scale are Saran (28.9), Gopalganj (34.6), and Siwan (39.5).

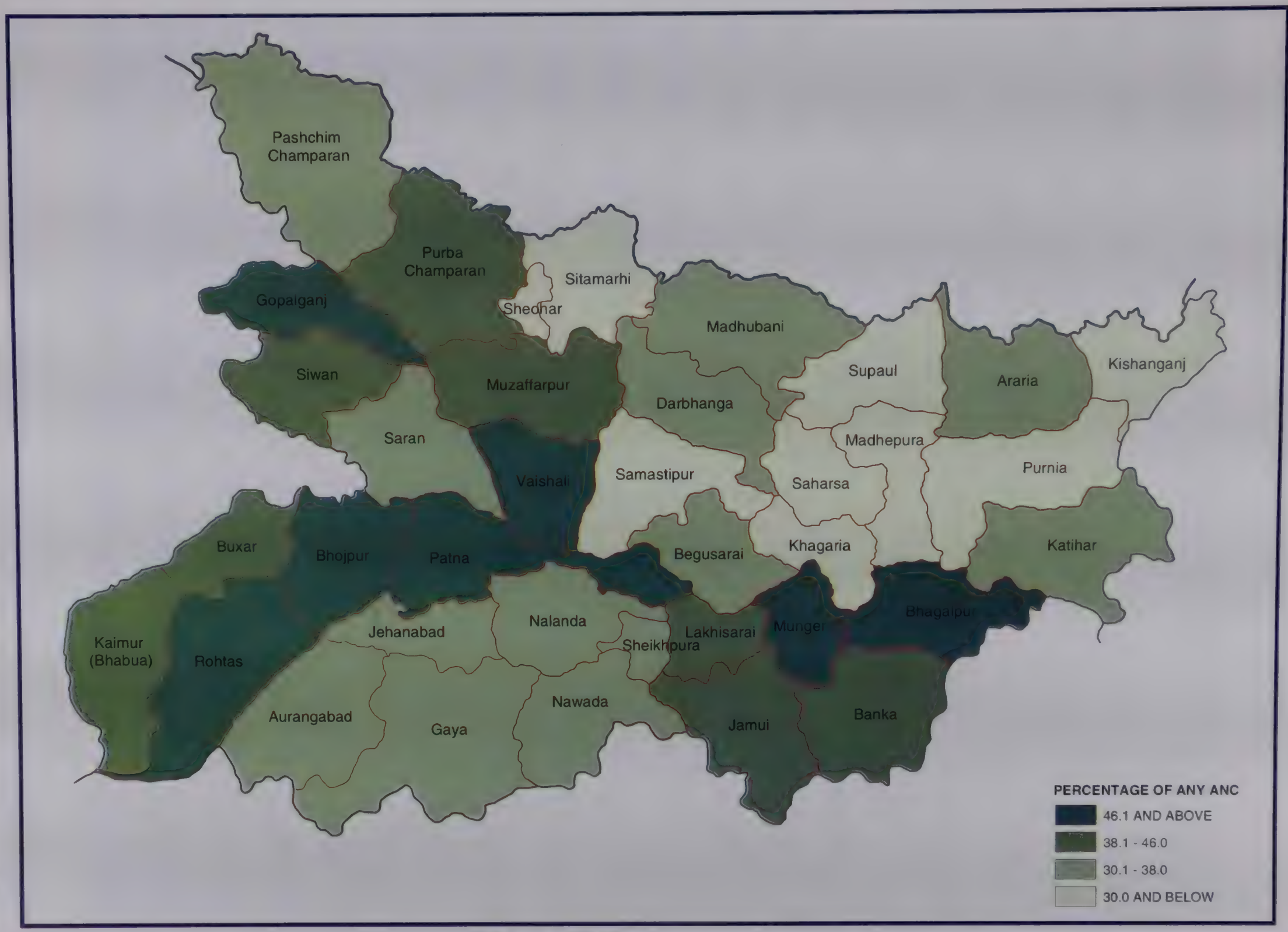


Map 4.44 : Bihar, birth order three plus

Table 4.8. Ranking of Districts According to Birth Order 3 and Above (%)

Rank in 2002–04	District	DLHS 2002–04	DRHS 1998-99	Rank in 1998-99
1	Rohtas	46.5	58.7	25
2	Patna	48.1	60.3	34
3	Jamui	49.8	59.6	28
4	Vaishali	50.0	53.3	4
5	Lakhisarai	50.0	59.6	29
6	Madhepura	50.4	57.0	19
7	Gaya	50.5	55.9	10
8	Munger	50.7	59.6	30
9	Supaul	51.6	53.3	3
10	Muzaffarpur	51.9	59.7	32
11	Bhagalpur	51.9	53.7	7
12	Begusarai	52.6	56.7	14
13	Aurangabad	53.7	57.0	18
14	Siwan	54.0	57.7	20
15	Bhojpur	54.0	55.6	9
16	Gopalganj	54.2	56.6	13
17	Banka	54.4	53.7	6
18	Kaimur (Bhabua)	54.5	58.7	24
19	Madhubani	54.7	56.2	11
20	Purba Champaran	54.9	56.9	15
21	Buxar	55.1	61.2	35
22	Nawada	55.1	56.5	12
23	Araria	56.3	58.1	21
24	Katihar	56.4	62.5	36
25	Darbhanga	56.5	59.8	33
26	Sheikhpura	56.7	59.6	31
27	Pashchim Champaran	57.0	52.8	1
28	Jehanabad	57.9	53.6	5
29	Sheohar	58.4	56.9	16
30	Saran	58.6	59.4	27
31	Samastipur	58.6	58.7	26
32	Sitamarhi	59.1	56.9	17
33	Nalanda	59.1	53.8	8
34	Khagaria	59.4	58.4	23
35	Purnia	59.6	58.1	22
36	Saharsa	62.6	53.3	2
37	Kishanganj	65.6	64.8	37
	Bihar	54.4	56.7	

Note: According to RCH-DLHS 2002–04, the birth order 3 and above for Bihar is 54.4. The district of Kishanganj (65.6) has the highest percentage followed by Saharsa (62.6) and Purnia (59.6). At the lower end of the scale are Rohtas (46.5), Patna (48.1) and Jamui (49.8).

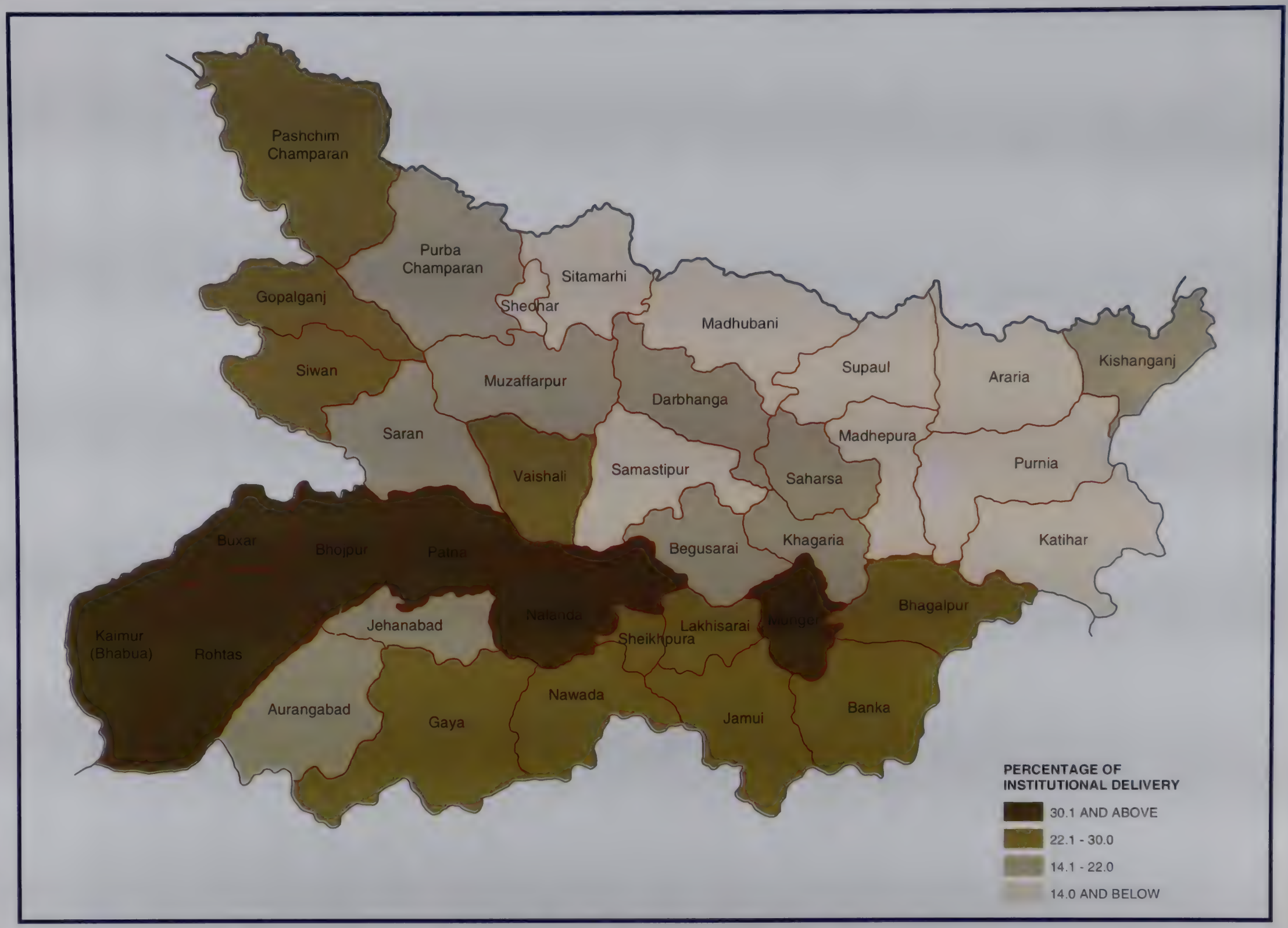


Map 4.45 : Bihar, ante-natal care

Table 4.9. Ranking of Districts According to Any Antenatal Care (%)

Rank in 2002–04	District	DLHS 2002–04	DRHS 1998-99	Rank in 1998-99
1	Gopalganj	53.3	33.9	5
2	Rohtas	52.4	33.5	7
3	Patna	52.4	22.8	23
4	Bhojpur	51.3	38.7	2
5	Bhagalpur	48.5	32.0	10
6	Munger	48.1	29.7	14
7	Vaishali	46.4	26.8	19
8	Jamui	43.7	29.7	12
9	Siwan	43.3	32.4	8
10	Purba Champaran	42.6	27.0	18
11	Lakhisarai	40.4	29.7	13
12	Muzaffarpur	40.4	21.7	26
13	Kaimur (Bhabua)	40.1	33.5	6
14	Banka	38.5	32.0	9
15	Buxar	38.2	27.4	17
16	Aurangabad	37.8	22.3	24
17	Sheikhpura	37.0	29.7	15
18	Katihar	36.1	19.8	30
19	Madhubani	36.0	15.9	36
20	Nawada	35.1	28.6	16
21	Pashchim Champaran	35.1	37.8	3
22	Araria	34.2	23.0	22
23	Jehanabad	33.6	19.9	28
24	Begusarai	33.5	36.2	4
25	Darbhanga	33.3	26.7	20
26	Nalanda	33.2	41.5	1
27	Gaya	33.0	20.7	27
28	Saran	32.7	31.7	11
29	Saharsa	28.9	17.9	31
30	Kishanganj	28.3	17.8	33
31	Sitamarhi	27.9	16.5	35
32	Madhepura	27.5	19.9	29
33	Purnia	26.3	22.2	25
34	Supaul	24.9	17.9	32
35	Sheohar	23.7	16.5	34
36	Samastipur	23.4	13.1	37
37	Khagaria	23.3	24.4	21
	Bihar	37.9	29.6	

Note: According to RCH-DLHS 2002–04, the percentage of women who received any antenatal care (ANC) is 37.9 for the state of Bihar, an increase from 29.6 in RCH-DRHS 1998-99. Leading in this respect were the districts of Gopalganj (53.3), Rohtas (52.4) and Patna (52.4). At the lower end of the scale were Khagaria (23.3), Samastipur (23.4) and Sheohar (23.7).

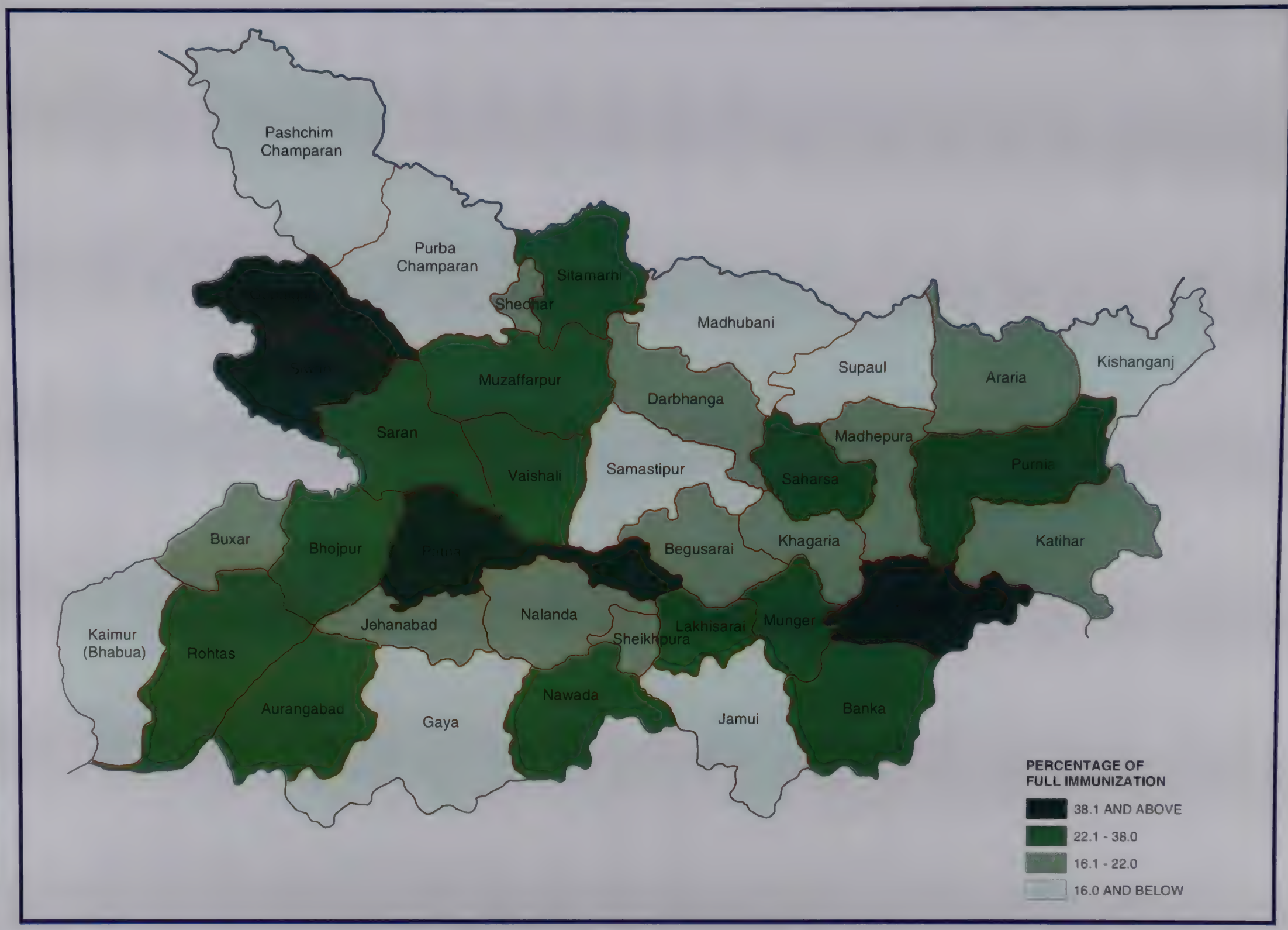


Map 4.46 : Bihar, institutional delivery

Table 4.10. Ranking of Districts According to Institutional Delivery (%)

Rank in 2002–04	District	DLHS 2002–04	DRHS 1998-99	Rank in 1998-99
1	Patna	45.3	12.4	21
2	Rohtas	39.7	21.1	7
3	Munger	38.8	17.9	11
4	Bhojpur	37.4	31.9	2
5	Jehanabad	35.1	26.0	4
6	Kaimur (Bhabua)	33.6	21.1	6
7	Nalanda	30.8	23.2	5
8	Buxar	30.4	28.3	3
9	Bhagalpur	29.2	14.1	19
10	Pashchim Champaran	28.6	43.7	1
11	Nawada	26.1	17.8	13
12	Lakhisarai	25.4	17.9	10
13	Banka	25.4	14.1	18
14	Siwan	24.1	14.4	17
15	Gopalganj	24.0	17.0	14
16	Gaya	23.6	12.1	22
17	Jamui	23.5	17.9	9
18	Sheikhpura	23.1	17.9	12
19	Vaishali	23.1	13.9	20
20	Aurangabad	21.3	18.8	8
21	Muzaffarpur	19.4	10.6	24
22	Purba Champaran	18.6	9.6	26
23	Darbhanga	16.9	12.0	23
24	Saharsa	16.4	9.4	27
25	Saran	15.9	14.8	16
26	Begusarai	15.7	15.7	15
27	Khagaria	15.1	10.4	25
28	Kishanganj	14.1	6.7	34
29	Katihar	13.1	6.1	36
30	Purnia	13.0	5.3	37
31	Supaul	12.5	9.4	28
32	Madhepura	11.8	9.0	29
33	Sitamarhi	11.6	8.2	31
34	Samastipur	11.1	6.6	35
35	Araria	9.1	6.8	33
36	Sheohar	8.4	8.2	30
37	Madhubani	7.7	7.4	32
	Bihar	23.0	14.9	

Note: According to RCH-DLHS 2002–04, 23% of women in Bihar had institutional delivery as compared to 14.9% in RCH-DRHS 1998-99. Leading in this respect are the districts of Patna (45.3), Rohtas (39.7) and Munger (38.8). At the lower end of the scale are Madhubani (7.7), Sheohar (8.4) and Araria (9.1).

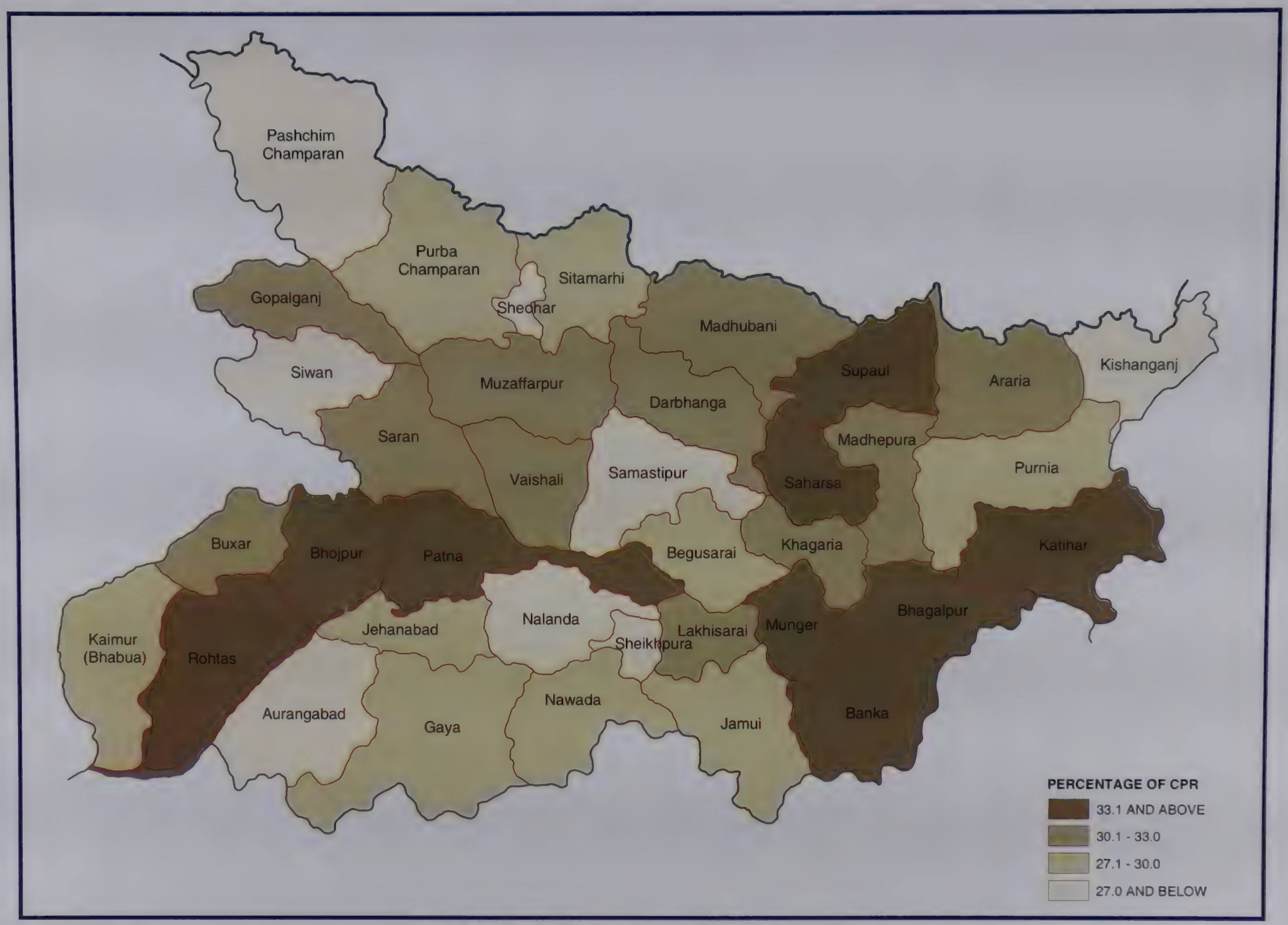


Map 4.47 : Bihar, immunization figures

Table 4.11. Ranking of Districts According to Full Immunization (%)

Rank in 2002–04	District	DLHS 2002–04	DRHS 1998-99	Rank in 1998-99
1	Bhagalpur	42.8	25.2	9
2	Patna	39.9	14.2	28
3	Gopalganj	39.0	21.2	14
4	Siwan	38.9	30.8	2
5	Muzaffarpur	35.9	30.1	3
6	Saran	35.3	20.9	15
7	Aurangabad	32.6	18.3	22
8	Bhojpur	32.3	12.0	30
9	Purnia	28.5	17.3	24
10	Munger	26.4	11.0	34
11	Vaishali	26.1	22	12
12	Banka	25.6	25.2	8
13	Sitamarhi	25.5	18.6	21
14	Nawada	25.4	28.7	4
15	Rohtas	24.6	8.4	37
16	Lakhisarai	23.2	11.0	33
17	Saharsa	22.9	20.1	17
18	Darbhanga	22.0	21.8	13
19	Buxar	22.0	24.1	11
20	Nalanda	21.8	13.2	29
21	Madhepura	21.7	15.8	26
22	Begusarai	21.4	16.4	25
23	Khagaria	21.1	26.3	6
24	Araria	19.6	20.4	16
25	Sheikhpura	18.5	11.0	35
26	Sheohar	18.3	18.6	20
27	Katihar	17.5	25.7	7
28	Jehanabad	16.8	27.1	5
29	Samastipur	16.0	19.6	19
30	Supaul	15.7	20.1	18
31	Madhubani	15.5	17.9	23
32	Purba Champaran	14.6	15.4	27
33	Gaya	14.4	24.3	10
34	Jamui	13.1	11	32
35	Kaimur (Bhabua)	12.5	8.4	36
36	Kishanganj	7.9	11.4	31
37	Pashchim Champaran	7.6	36.8	1
	Bihar	23.0	22.4	

Note: According to RCH-DLHS 2002–04, 23% of children in the age group of 12–35 months in Bihar received full immunization as compared to 22.4% in RCH-DRHS 1998-99. Leading in this respect were the districts of Bhagalpur (42.8), Patna (39.9) and Gopalganj (39.0). At the lower end of the scale were Pashchim Champaran (7.6), Kishanganj (7.9) and Kaimur (12.5).



Map 4.48 : Bihar, contraceptive prevalence rate

Table 4.12. Ranking of Districts According to Contraceptive Prevalence Rate (%)

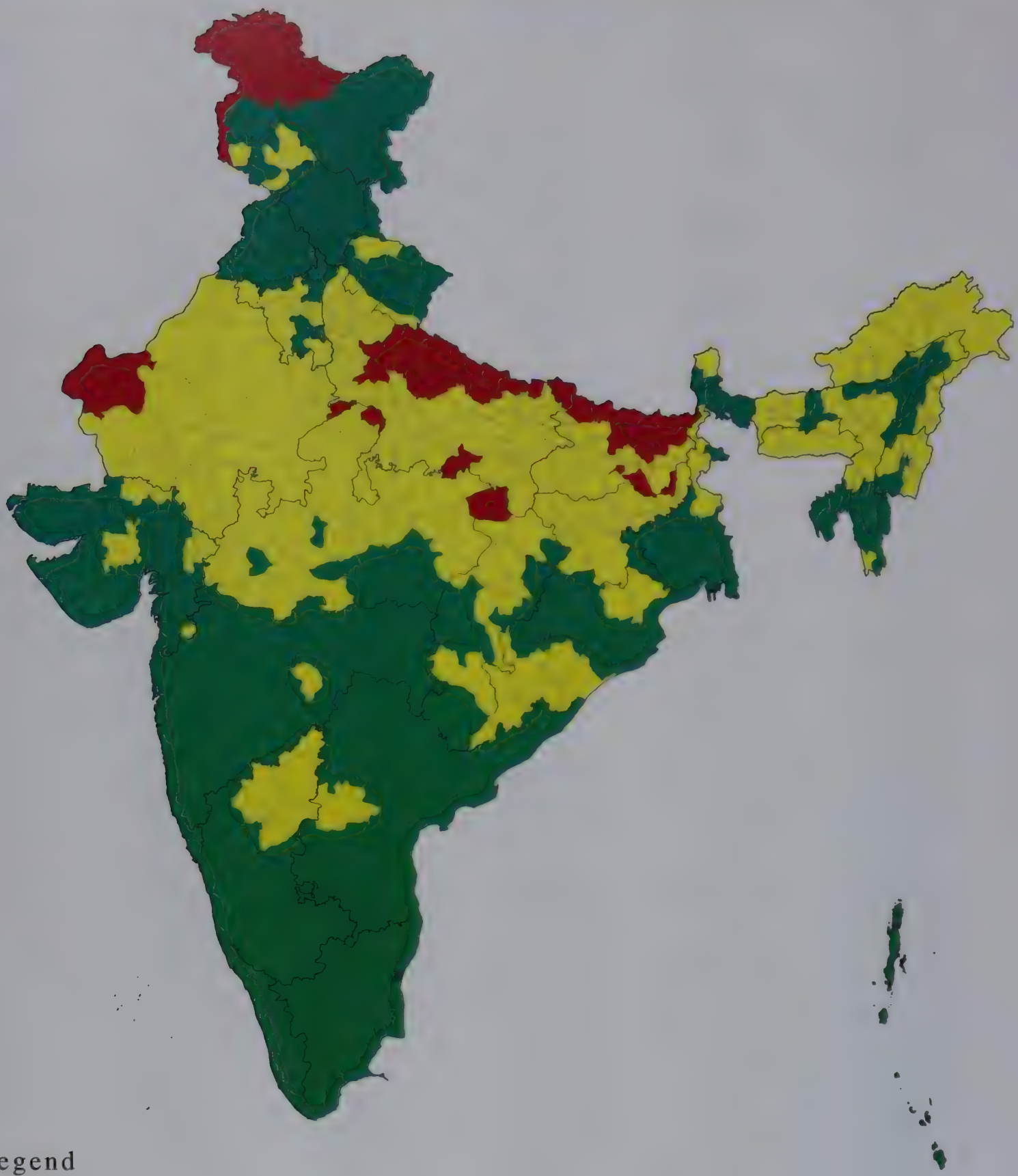
Rank in 2002–04	District	DLHS 2002–04	DRHS 1998-99	Rank in 1998-99
1	Bhagalpur	39.6	24.7	8
2	Munger	38.6	21.9	19
3	Saharsa	37.7	27.7	2
4	Bhojpur	36.9	22.9	13
5	Banka	36.9	24.7	7
6	Patna	36.8	20.8	24
7	Supaul	36.4	27.7	3
8	Rohtas	35.0	20.0	28
9	Katihar	33.6	17.2	33
10	Vaishali	33.0	23.1	12
11	Lakhisarai	32.6	21.9	18
12	Muzaffarpur	32.5	24.7	9
13	Darbhanga	31.9	25.2	6
14	Madhepura	31.5	24.4	10
15	Araria	31.2	26.5	5
16	Buxar	31.0	19.4	30
17	Khagaria	30.8	26.8	4
18	Saran	30.5	17.5	32
19	Madhubani	30.4	21.8	21
20	Gopalganj	30.1	14.5	37
21	Purnia	30.0	22.6	14
22	Kaimur (Bhabua)	29.2	20.0	27
23	Jamui	28.9	21.9	17
24	Nawada	28.8	19.7	29
25	Gaya	28.4	21.0	23
26	Jehanabad	28.2	20.6	25
27	Sitamarhi	27.9	16.6	35
28	Purba Champaran	27.8	19.3	31
29	Begusarai	27.6	21.9	16
30	Nalanda	26.4	23.9	11
31	Aurangabad	25.7	21.1	22
32	Pashchim Champaran	24.6	35.3	1
33	Sheikhpura	23.9	21.9	20
34	Siwan	23.7	20.4	26
35	Kishanganj	23.1	15.5	36
36	Samastipur	22.7	22.0	15
37	Sheohar	19.7	16.6	34
	Bihar	31.0	23.3	

Note: According to RCH-DLHS 2002–2004, the percentage of women currently using any family planning methods is 31.0 as compared to 23.3 in RCH-DRHS 1998-99. Leading in this respect are the districts of Bhagalpur (39.6), Munger (38.6) and Saharsa (37.7). At the lower end of the scale are Sheohar (19.7), Samastipur (22.7) and Kishanganj (23.1).

Table 4.13. Ranking of Districts According to Socio-Demographic Development Indicators

District	Birth Order 3+	Full ANC	Full Immu-nization	Safe Delivery	Girls Marrying under 18 Years of Age	Child Sex Ratio	Female Literacy	GDI	Population Proportion	RCH Index	SDI Index	Socio-Demo-graphic Develop-ment Index	Rank 2007	Rank 2002	Change in Rank
Sheohar	25.52	3.41	18.40	7.82	30.42	55.76	6.80	52.90	18.74	17.12	33.55	23.06	4	16	–12
Kishanganj	15.10	1.17	7.97	12.63	49.88	67.29	0.07	62.05	8.11	17.98	34.38	24.54	7	2	5
Samastipur	25.23	4.26	16.09	11.12	20.34	63.94	16.85	60.61	16.60	16.30	39.50	25.58	10	22	–12
Khagaria	24.12	2.13	21.22	12.32	31.60	61.71	13.86	52.83	11.10	20.26	34.88	26.11	11	37	–26
Pashchim Champaran	27.51	0.75	7.63	30.85	24.81	69.52	8.56	55.76	14.22	19.09	37.01	26.26	13	4	9
Sitamarhi	24.52	3.52	25.65	7.81	34.10	58.74	9.72	54.19	17.95	20.40	35.15	26.30	14	6	8
Purba Champaran	30.63	9.13	14.73	20.01	30.65	63.57	7.32	54.98	14.50	21.96	35.09	27.21	15	10	5
Madhubani	30.90	3.52	15.64	7.02	28.54	64.31	9.87	63.11	20.92	19.21	39.55	27.35	16	13	3
Supaul	35.32	2.34	15.82	20.63	28.14	59.11	2.87	59.22	14.91	23.16	34.03	27.51	17	14	3
Saharsa	19.49	2.02	23.06	13.78	43.72	54.28	8.61	57.43	16.16	23.37	34.12	27.67	18	25	–7
Sheikhpura	27.92	4.26	18.64	39.45	0.00	70.26	19.74	58.78	16.99	18.73	41.44	27.81	21	33	–12
Araria	28.57	2.24	19.71	12.78	40.62	73.23	4.88	57.98	9.76	22.43	36.46	28.04	22	28	–6
Madhepura	37.02	6.55	21.89	13.94	36.14	59.85	4.54	58.26	11.94	24.41	33.65	28.10	24	3	21
Darbhanga	28.30	3.73	22.18	18.10	41.43	55.39	15.70	58.02	22.35	24.20	37.86	29.66	34	30	4
Purnia	23.83	3.09	28.74	10.97	50.43	74.72	6.23	58.25	12.17	24.37	37.84	29.76	35	34	1
Jamui	37.99	8.36	13.15	20.26	23.95	73.23	9.96	58.87	24.60	21.95	41.66	29.84	36	29	7
Kaimur (Bhabua)	31.16	2.24	12.55	38.56	42.90	74.35	6.72	58.95	9.80	25.94	37.46	30.55	44	32	12
Jehanabad	26.19	4.16	16.93	36.96	28.96	56.13	26.76	60.80	26.75	23.38	42.61	31.07	51	72	–21
Begusarai	33.87	2.66	21.50	21.66	40.47	66.91	21.96	57.67	19.76	24.43	41.58	31.29	53	56	–3
Katihar	28.34	3.84	17.59	21.71	45.68	64.68	26.06	55.97	16.72	25.09	40.86	31.40	55	27	28
Nalanda	24.46	1.92	21.95	31.84	29.97	65.43	25.75	67.38	23.48	22.53	45.51	31.72	59	77	–18
Buxar	30.31	2.34	22.12	35.05	30.36	59.11	27.42	55.43	27.11	25.10	42.27	31.96	63	46	17
Lakhisarai	37.68	9.52	23.35	24.03	32.53	68.77	19.80	59.28	15.54	26.56	40.85	32.28	67	35	32
Nawada	30.22	2.98	25.60	27.62	31.11	78.81	17.49	63.83	23.91	24.23	46.01	32.94	71	45	26
Banka	31.34	6.84	25.80	30.15	34.17	73.98	12.99	56.94	20.41	27.59	41.08	32.99	72	44	28
Vaishali	37.68	5.25	26.25	31.65	27.58	63.57	23.17	59.21	23.08	26.86	42.26	33.02	73	52	21
Gaya	36.94	5.01	14.46	31.82	35.63	75.09	23.28	62.41	24.39	25.2	46.29	33.64	83	50	33
Aurangabad	32.27	1.49	32.86	21.67	46.37	65.80	30.02	61.65	24.31	26.48	45.44	34.07	85	48	37
Muzaffarpur	34.93	5.65	36.16	24.19	47.70	60.22	22.17	59.14	24.34	30.13	41.47	34.67	93	67	26
Saran	25.23	7.00	35.54	14.58	66.06	68.03	25.75	67.38	23.48	29.70	46.16	36.28	119	62	57
Siwan	31.87	4.58	39.21	27.02	53.53	62.45	23.56	79.17	21.30	29.69	46.62	36.46	123	69	54
Bhojpur	31.81	6.15	32.56	43.95	34.96	64.68	29.89	55.84	30.58	31.12	45.25	36.77	126	109	17
Munger	36.68	1.92	26.58	42.13	43.20	55.02	37.11	50.55	35.86	31.64	44.63	36.83	129	66	63
Gopalganj	31.63	7.06	39.24	28.79	59.31	73.61	17.49	73.75	21.99	32.56	46.71	38.22	148	40	108
Rohtas	42.62	5.33	24.81	45.61	44.92	68.77	34.93	57.25	24.56	33.06	46.38	38.39	150	53	97
Bhagalpur	34.89	6.41	43.06	35.83	49.90	74.35	25.17	51.24	26.44	35.08	44.30	38.76	156	97	59
Patna	40.39	13.61	40.14	44.22	47.49	58.36	41.52	50.60	40.73	37.17	47.80	41.42	193	228	–35

Note: Table 4.13 sums up the findings of the *India Socio Demographic Development Index*, published by Population Foundation of India, New Delhi in 2007 and *The Ranking of Districts in India for Area-specific Planning and Programme Interventions*, published by the International Institute of Population Sciences (IIPS), Mumbai, 2002. These two publications attempted to compute composite indices based on ten key variables indicators (using six indicators of DLHS and DRHS under the RCH programme and four indicators of the Census of India, 2001, respectively. These computations identified districts as 'vulnerable', i.e. socially and demographically weak/backward. The variables/indicators were chosen to reflect overall socio-demographic development. It may be noted that in both documents all districts of Bihar figure as vulnerable socio-demographically backward. Districts such as Sheohar, Kishanganj, Samastipur, Khagaria, West Champaran, Sitamarhi, Purba Champaran, Madhubani, etc. are perpetually at the bottom.



Map 4.12. Bihar, socio-demographic development index, 2007

Note: It is seen from Table 4.13 and Map 4.12 that all districts in Bihar have a composite index of 'value' less than 50, identifying them as 'vulnerable', i.e. socially and demographically backward/weak. The message is clear that all districts of Bihar need focused attention.

5
Health Service Delivery

The establishment of health service delivery through this approach started as early as 1952 on the basis of the recommendations of the Bhore Committee Report 1946 with the setting up of a three-tier delivery system. The healthcare delivery system comprises the primary health centre (PHC), community health centre (CHC) and sub-centre (SC). Primary health care or first contact care is provided at the PHC, the secondary care at the CHC and tertiary care at medical colleges and district hospitals. The sub-centre is the most peripheral health institution catering for the health care needs of the rural population. It is also the most peripheral contact point between the primary health care system and the community. It is manned by one male multipurpose worker (MPW/M) and one female multipurpose worker (MPW/F) or ANM. A PHC on the other hand is the first contact point between the village community and the medical officer. A PHC is expected to have a medical officer (MO) and 14 para-medical and other staff. It acts as a referral unit for five to six sub-centres. Activities of the PHC involve curative, preventive and promotive services. CHCs are basically referral centres for PHCs approximately in the ratio of 1:4. The staff strength of a CHC includes 4 medical specialists, i.e. surgeon, physician, gynaecologist and paediatrician, supported by 21 para-medical and other staff.

Table 5.1 provides details of population coverage by the three-tier healthcare system. Figure 5.1 presents the administrative structure of the health delivery system in the state. At the district level the Civil Surgeon is the chief health and medical officer. At the block level the block medical officer (BMO) heads the health administration. Table 5.2 presents details.

Table 5.1. Health Care Infrastructure in Bihar, March 2006.

Particulars	Bihar
Community Health Centres (CHCs) (No.)	70
Primary Health Centres (PHCs) (No.)	1641
Sub Centres (No.)	8858
CHCs	
Average Rural Population Served by a CHC	1061667
Average Rural Area (sq km) Covered by a CHC	1319.41
Average Radial Distance (km) Covered by a CHC	18.96
Average Number of Villages Covered by a CHC	644
PHCs per CHC (No.)	23
PHCs	
Average Rural Population served by a PHC	45287
Average Rural Area (sq km) Covered by a PHC	56.28
Average Radial Distance (km) covered by a PHC	4.23
Average Number of Villages covered by a PHC	27
Sub Centres per PHC (No.)	5
Sub Centres	
Average Rural Population Served by a Sub Centre	8390
Average Rural Area (sq km) Covered by a Sub Centre	10.43
Average Radial Distance (km) covered by a Sub Centre	1.82
Average Number of Villages covered by a Sub Centre	5
FRUs	94
At PHC	21
At CHC	21
At Sub District Level	27
At District Level	25

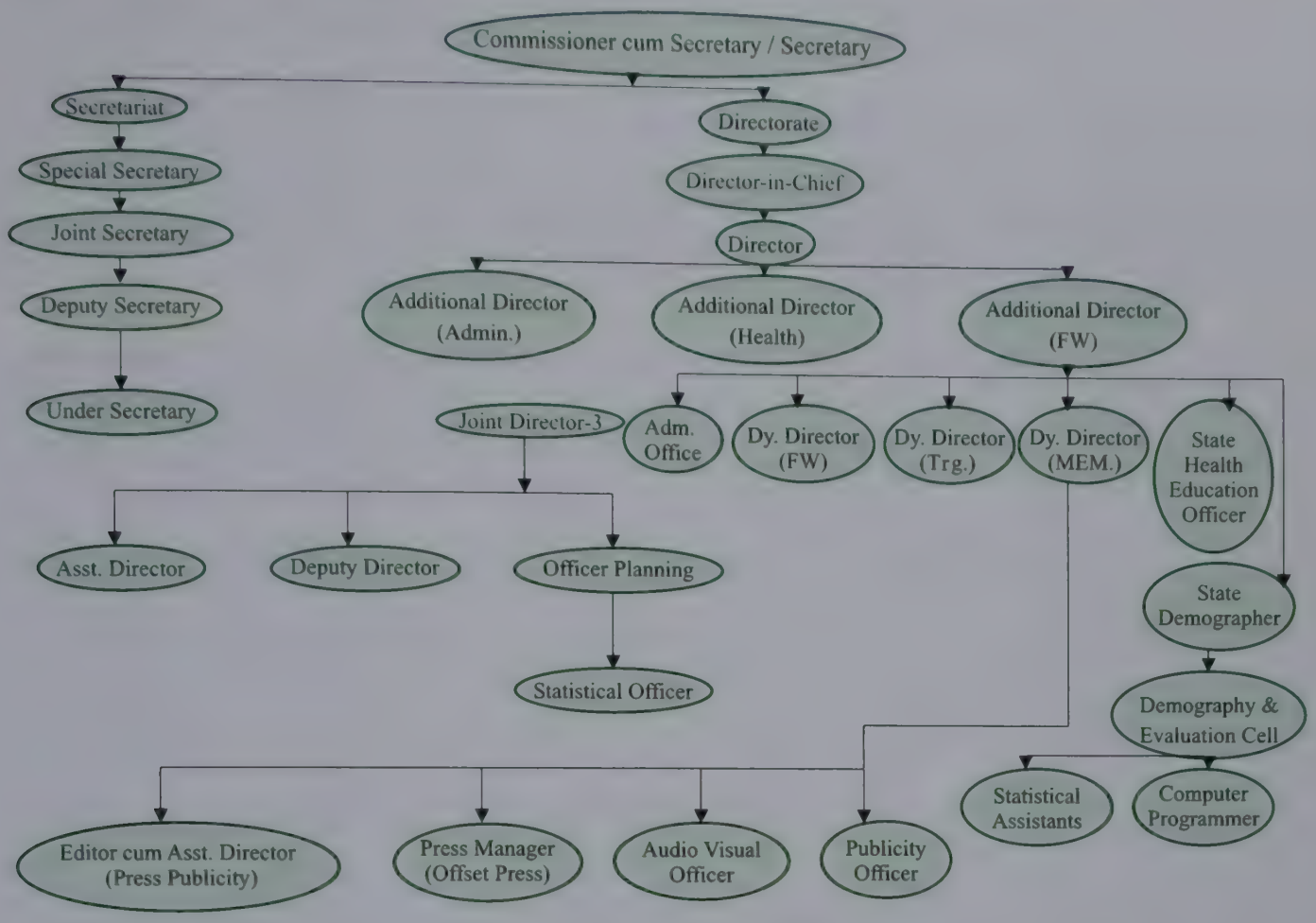
Source: Bulletin on Rural Health Statistics in India, 2006, Special Revised Edition

Table 5.2. Availability of Health Personnel in Bihar, March 2006

	Required	In Position	Shortfall
Sub Centres	14959	8858	6101
PHC	2489	1641	848
CHC	622	70	552

Source: Bulletin on Rural Health Statistics in India, 2006, Special Revised Edition

Fig. 5.1. Organogram of Health and Family Welfare Department, Government of Bihar



As per the Bulletin on Rural Health Statistics (MoHFW, 2006), of the 8858 sub-centres 72% have ANM quarters but only 105 have ANMs living in the quarters; 29% are without regular supply of water and 37% are without all-weather motorable road. Of the 1641 PHCs only 13% are equipped with labour room, 3% with operation theatre, 48% with 4–6 beds, and only 14% with 24-hour delivery facility. In terms of communication facility only 11% are equipped with telephone and 1% with computers. In terms of basic amenities 33% of PHCs are without electricity supply, 42% are without regular water supply, and 18% are without all-weather motorable road.

Urban health infrastructure under Family Welfare Programme shows that there are 28 district-level post-partum centres, 34 sub-district-level post-partum centres, no urban health posts, and 26 urban family welfare centres.

In terms of personnel, 56% of the PHCs have only one doctor, 19% have two doctors, 8% have three doctors, 9% have four doctors; only 5% have a lady doctor. Many sub-centres are without ANM and most of them are without any male health worker. Tables 5.3, 5.4 and 5.5 present data about the shortfall of health personnel in the state as on March 2006. Table 5.6 presents data on staff position at PHCs and sub-centres. It is seen from the data presented that while the healthcare delivery system in the state has expanded significantly over the last 15 years, most people still do not get the benefits of the existing health services. Services are often not accessible either geographically or financially. Among additional reasons for people not accessing these services are that they do not believe in the relevance of these facilities or are put off by the service providers' unhelpful interface with them. A study conducted by NCAER in 1995-96, NSSO 52nd round, also showed that spending on public sector health services in Bihar was predominantly in favour of wealthier or richer groups (see Figure 5.2).

Table 5.3. Shortfall in Health Personnel in Bihar, March 2006

Personnel	Required	Sanctioned	In Position	Vacant	Shortfall
MHW/ANM Female at CHC	8858	8858	7672	1186	1186
MHW/ANM female at PHC	10499	10499	8904	1595	1595
Health worker male at Sub Centre	8858	2135	1035	1100	7823
Health worker female/LHV at PHC	1641	850	491	359	1150
Health worker male/LHV at PHC	1641	649	323	326	1318

Source: Bulletin on Rural Health Statistics in India, 2006, Special Revised Edition

Table 5.4. Shortfall of Specialists and Techinicians in Health Facilities in Bihar, March 2006

	Required	Sanctioned	In Position	Vacant	Shortfall
Doctors at PHCs	1641	2078	1606	472	35
Surgeons at CHCs	70	70	28	42	42
Gyne Obs	70	70	19	51	51
Physicians	70	70	29	41	41
Paediatricians	70	70	12	58	58
Total Specialists	280	280	88	192	192
Radiographers at CHCs	70	89	15	74	55
Pharmacists at CHCs	1711	989	291	698	1420
Lab technicians at PHCs and CHCs	1711	82	16	66	1695
Nurse, Midwife at PHCs and CHCs	2131	1482	1163	320	968

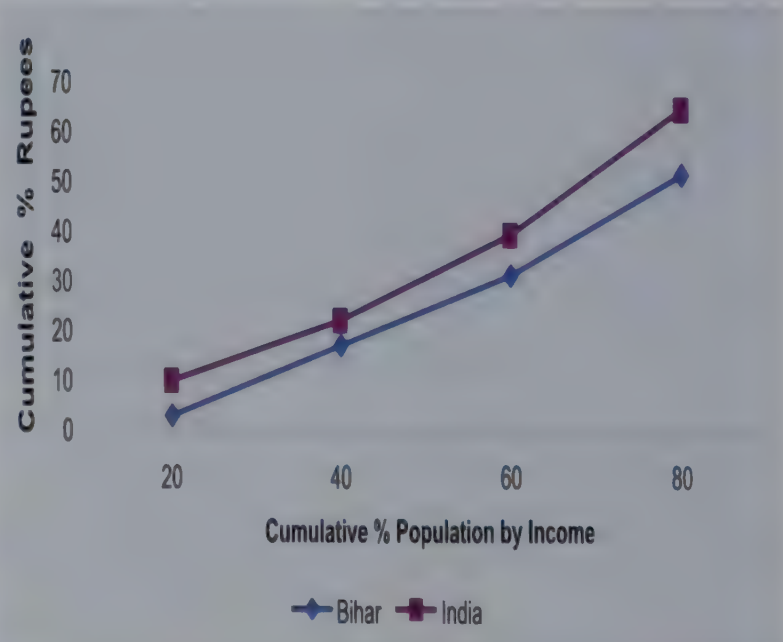
Source: Bulletin on Rural Health Statistics in India, 2006, Special Revised Edition

Table 5.5. Health Staff Position at PHCs and Sub Centre

PHCs	Number
With 4 and more doctors	141
With 3 doctors	137
With 2 doctors	317
With 1 doctors	925
With no doctors	121
With lady doctor	74
Without pharmacists	686
Without lab technicians	810
Sub Centre	
Without HW (F)/ANM	854
Without HW (M)	3564
Without both	854

Source: Bulletin on Rural Health Statistics in India, 2006, Special Revised Edition.

Fig. 5.2.2 : Concentration Curve of Public Spending on Curative Health Care



The state also had the lowest levels of public sector health services provided among the major states, and the most inequitable distribution of its public services. The people of Bihar mostly depend on the private sector for their curative care. The 1995-96 NSSO survey also points out that the public sector provided only a fraction of outpatient care (8% overall), with the wealthier/richer quintiles consuming higher rates of services in both public and private sectors. The study also found that outpatient services are largely provided by rural medical practitioners (RMPs). RCH II data also disclose that only 8.6% of the population visit government health facility whereas 90.3% visit private healthcare facilities. But the Government has done little to regulate the private sector to ensure that it provides safe, effective and accountable health services. Figures 5.3, 5.4 and 5.5 provide data about people's preponderant preference for private health facilities.

Fig. 5.3.3 : Visit to health facility for health or family planning services : Rural

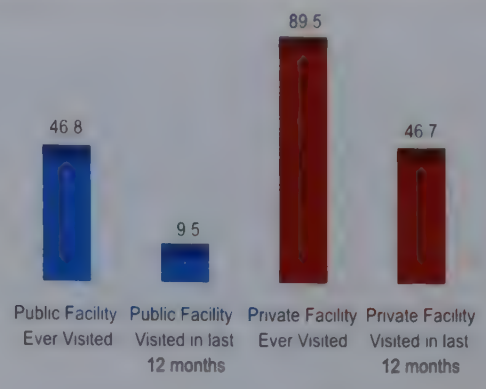


Fig. 5.4. Visit to health facilities-public vs. private rural area

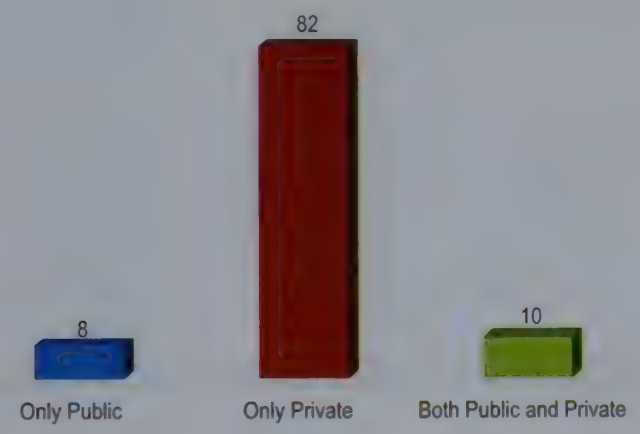
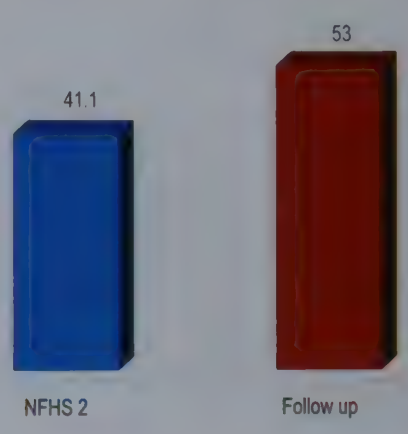


Fig. 5.5. Change in utilization of health facility NFHS-II vs. follow-up



An increasing number of households are not using government facilities, as reflected in the rise in percentage of households not using government facilities, from 89% in NFHS-2 to 93.3% in NFHS-3. This is the highest in the country. The reasons cited are: lack of access to a facility (44.9%), facility timing not convenient (8.4%), health personnel often absent (21.4%), and waiting time too long (14.2%). But the majority of households (83.7%) in the state do not use government health facilities due to poor quality of care. Coupled with health personnel often not available, these figures are the highest in India. Only 19.2% of the women had any contact with a health worker. Among those who had access to a health worker, a very high percentage (98.2%) said that he/she talked appropriately with them and 96.2% said that he/she made sure that the client understood the information given. It is thus seen that wherever present, community health workers have better client provider relationship and provide adequate information. However, access to a government health facility and regular visits by health worker are extremely poor in the state. Poor health outcomes in the state justify focusing on National Population Policy (NPP 2000), the National Health Policy (NHP 2002 and the recent National Rural Health Mission (NRHM, 2005) efforts.

Quality of Care

Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Institute of Medicine, 1990). Quality of care is also defined as the way by which clients are treated by the system, or the actual process of care giving, and by the focus on the client's or user's perspective of services. Providers' attitude towards client, client's satisfaction and perspective, technical appropriateness and desired health outcomes are important components of quality. Other issues are access, training and infrastructure. The framework of quality of care as enunciated by Judith Bruce (1990) incorporates six elements: (i) choice of methods; (ii) information given to users; (iii) technical competence; (iv) interpersonal relations; (v) mechanisms to encourage continuity; and (vi) appropriate constellations of services. The UNFPA definition particularly emphasizes client's participation in management decisions which goes beyond the concept of client provider interactions.

Table 5.6 provides comparative data for quality of care in family planning services for Bihar and India. It is seen from the table that there is a large gap in quality of care provided in Bihar in this respect. Key issues in quality of care and client satisfaction and reproductive choice are neglected, with low levels of information provided by the healthcare provider on type of contraceptive use, inadequate counselling, and extremely low levels of community level monitoring of maternal health, as shown in the dismal figures on home visits by ANM. Such lacunae in health service delivery are evident across different levels of facilities and service providers in the state.

Table 5.6. Quality of Care Indicators for Bihar and India

Contraceptive Use	Bihar	India
% informed about other methods before sterilization	20.3	28.9
% told about side-effects of sterilization	18.5	29.3
% told about side-effects of other methods	16.0	23.3
% received follow-up to sterilization	7.3	31.2
% received follow-up to other methods	2.8	9.1
% non users advised on use of contraceptive method	4.1	11.7
Maternal Care		
% married women advised to have delivery by doctors/health worker	10.3	34.2
% of women visited within 2 weeks of delivery by ANM	1.8	13.0
% of women visited at least one within 6 weeks of delivery by ANM	2.1	15.6

Source: DLHS, RCH-II, IIPS, Mumbai

The health service delivery system is plagued with certain inherent weaknesses, among which those in need of priority corrective action are: effectiveness, efficiency, decentralization, and integration.

Effectiveness. It is estimated that healthcare delivery reaches barely 10–15% of the population. Mostly, the urban population accesses the services. The infrastructure remains poor. Outreach care is virtually absent. Almost all district hospital services are localized and stationary, with few personnel going out and providing ambulatory care in the villages. Referral exists more in theory than in practice and is the weakest link in the system.

Efficiency. The underlying reason for ineffectiveness is deficient management. Earlier, policies related to primary healthcare were adequate and appropriate while the management of the various

health programmes and projects did not reflect these policies. This led to an extremely weak system in terms of motivation, training, supervision and proper implementation of programmes. Some key determinants of efficiency or lack of efficiency are:

- *Access to care*: This affects cost of services, supplies, movement of trained human resources and frequency of supervision.
- *Social cultural factors*: The power of patronage, connection of class, caste, locality and poverty dominate access to employment, promotions and transfers of individuals and to resources for the community.
- *Bureaucratic constraints*: The rigid hierarchical system fits the patron-client relationship by which access to services is often gained. Although there is little disincentive for poor performance individual action is carefully accessed in terms of accepted norms and stepping out is perceived as risky.
- *Accountability*: The government was regarded mainly as an instrument of revenue collection and law and order. People do not expect much from public service and demands for better performance are constrained by such social factors as mentioned above. As a result, there is no accountability.

A major shortcoming in the managerial health process is the fact that once a policy has been set it is translated directly into targets and numbers with little attention to planning. For example, how these targets and numbers will be met or can be met at all, given the low number of human resources and poor infrastructure. When it becomes obvious that the targets will not be met, rather than being made more realistic they are made even more ambitious in order to demonstrate political support. This leads to frustration among those responsible for implementation. They see the planning process as irrelevant to their work or become chronically disillusioned or indifferent.

Decentralization. The effect of decentralization down to the district level has been limited. Since budgeting remains highly centralized there is little incentive to planning and decision-making responsibilities. Even if financial control were to be delegated, effective decentralization would not ensue as the mechanism for district health officials to exercise such control remains hazy. A prerequisite for making decentralized planning a reality is a sound decentralized health management information system, as envisaged in the NRHM.

Integration. The policy of integration assumes that efficiency gains can be achieved by combining the service activities of vertical programmes. More immediately, integration is often perceived as a threat to long-term programme staff who may face unemployment due to their contractual status. Although integration of services has supposedly been completed, the vertical programmes remain largely independent in their own budgets, staff and bureaucratic imperatives. Architectural correction and the process of integration of vertical programmes remain unresolved under the NRHM. There is, however, the danger that the effectiveness of the established vertical programmes might be diluted by integration and the dedicated human resource will be unprepared to deliver the amalgamation of services expected of them. The NRHM has now accelerated the process of integration with some success but a number of issues still remain to be resolved.

Health services in Bihar also show relatively low levels of performance. Bihar has the lowest levels of child immunization in India and amongst the lowest levels of contraception prevalence and safe deliveries. Delivery of services is most problematic for the poor, who need services the

most. Bihar also had the lowest levels of public sector health services provided among the major states, and the most inequitable distribution of its public services. The people of the state depend mostly on the private sector for their curative care, but the Government has done little to regulate the private sector to ensure that it provides safe, effective and accountable health services. Hospitalization rates are also lower in Bihar than any other major state in India and are dependent largely on the private sector. Overall the private sector provides 28% of hospitalization in the state, with the rich 20% of the population consuming 15 times the number of public sector hospitalization as the poorest quintile. Women from the poorest quintile have extremely low rates of institutional deliveries, i.e. less than 5%. Women from the richest and poorest quintiles are less likely to use the public sector if they deliver in a hospital, i.e. 28% and 49% respectively.

Health Insurance

Health insurance coverage in Bihar is far from satisfactory despite the fact that a large proportion of the population lives below the poverty line and is illiterate. This segment of the population lives under higher health risks. Existing insurance is largely limited to a small proportion of people in the organized sector. Currently, the various health insurance schemes by the government are Employment State Insurance Scheme (ESIS), Central Government Health Scheme (CGHS), insurance through employers and medical reimbursement through employers rather than voluntary health insurance schemes. Private providers of health insurance have only currently emerged as a big player in the Indian health insurance market after opening of the economy. Community health insurance scheme has been an emerging scheme introduced recently in some states. It is yet to take off in Bihar. Currently, knowledge about such schemes is low in the state.

6

Concerns, Challenges and Strategies for Change

It should be evident from the discussion in the preceding chapters that the health scenario in the state of Bihar remains dismal. To sum up, the morbidity has its roots in communicable diseases for the whole population; malnutrition is rampant among children under 5 years of age; the female population is at great risk from complications of pregnancy and childbirth. The state is experiencing the classical health problems of underdevelopment and social deprivation, namely, nutritional deficiencies and communicable diseases. The problem in the state is not necessarily and primarily one of specific diseases calling for specific medical interventions along vertical lines, but a broad horizontal problem of poverty, underdevelopment and social deprivation. Therefore, disease and health in Bihar should be looked at in the context of social needs and related to health and social inequalities.

The health scenario in the state, while presenting daunting challenges, also opens up windows of opportunities. The overarching challenge is to improve the health and nutrition status of the poor, especially women. Providing basic human needs and entailments — food, shelter and safe water — is the biggest challenge. The most important recommendations for maximizing the gains from investment in health and improving the existing health status of the people are possible by ensuring food security, safe drinking water, housing, sanitation, and effective utilization of health services by addressing the issues of access, quality and financing. Following are the key strategies for the future.

Population Stabilization

A major challenge for the state is to achieve population stabilization. The country has made tremendous strides in slowing population growth, but in states with high population, such as Bihar, much needs to be done to address the unmet need and stabilize the population to earn benefits from the demographic dividend. The Population Foundation of India and the Population Reference Bureau, USA, have made projections with consistency for all the states of India. Table 6.1 reflects the comparative scenarios for Bihar and India for the next 100 years (2001–2101). It may be noted from the projections that India's population will reach replacement levels of TFR 2.1 in 2061 while Bihar will reach that level in 2081. This replacement level for the state will occur when its population will be 24,57,82,000. The British parliamentarians' report on 'Return of the Growth Factor: Its Impact on Millennium Development Goals' is all the more relevant in the context of Bihar.

Table 6.1. Projected Population and Fertility, Bihar and India, 2001–2101

Year	Population ('000)		TFR	
	Bihar	India	Bihar	India
2001	82997	1028591	4.3	3.0
2011	101024	1203711	3.7	2.7
2021	122406	1380214	3.2	2.5
2031	145305	1546158	2.8	2.3
2041	168131	1695051	2.6	2.2
2051	190521	1823538	2.4	2.2
2061	211557	1930839	2.3	2.1
2071	230275	2018513	2.2	2.1
2081	245782	2087232	2.1	2.1
2091	258417	2141172	2.1	2.1
2101	267939	2181133	2.1	2.1

Historically, India's population stabilization efforts have centred around family planning, with focus on fertility reduction. Such narrow vertical programmes, often limited to achieving numbers, are not the answer for India's population stabilization.

It is well known that wherever infant mortality reduces, TFR falls. This is related to the insecurity regarding child survival. Thus, there exists a direct relationship between infant mortality and fertility. Reducing IMR and child mortality is, therefore, important to reduce population growth and ultimately stabilize population. Interventions for improving child survival are well known. These are: better education, improved access to quality health care, better nutrition, better employment opportunities, higher earnings, safe drinking water, better sanitation, etc. Interestingly enough, the same interventions are also required for empowering women, improving the quality of life, and ultimately for stabilizing population.

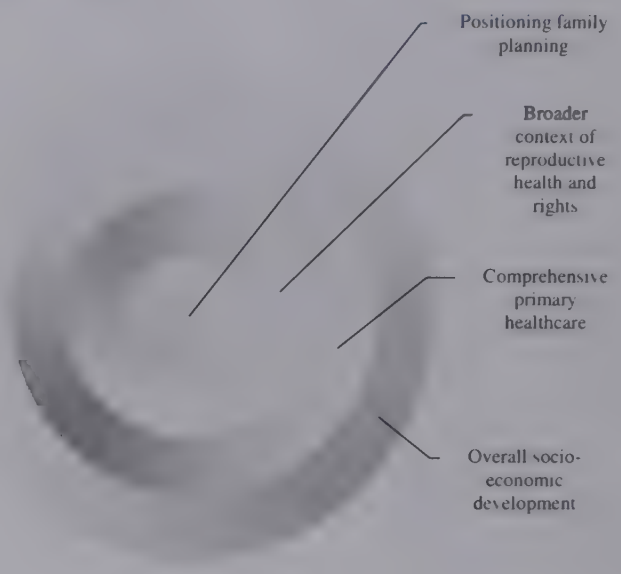
There exists a linkage between social development indicators, health status and population stabilization. The issue of population stabilization is not a technical issue with a technical quick-fix solution. The answer does not lie in pushing sterilizations and chasing targets in the conventional mode. For population stabilization it is important to improve people's access, particularly women's access, to quality health care. The contraceptive mix needs to be enlarged and expanded. We are now discovering that the obvious route to population stabilization is through social development, through women's empowerment, and through greater gender equality.

Repositioning Family Planning in Primary Health Care

We need to tackle the issue of population stabilization in a holistic way. Family planning programmes cannot be addressed in isolation. Therefore family planning has to be positioned in the broader context of reproductive health and reproductive rights. In fact, it has to be placed and positioned in the broader context of comprehensive primary health care (see Figure 6.1).

The most important aspect of primary health care is its *'all-inclusive equity-oriented approach'*. The component of equity is defined as equal access to health care, equal utilization of health care, and equal care according to felt needs. Primary health care was and still is a potentially revolutionary concept which looks beyond the customary, conventional and traditional boundaries of curative and preventive medicine and tries to address up-front the underlying social causes of poverty, discrimination, food security, hunger and poor health. This is, in fact, a holistic concept and is guided by five principles, namely, (i) equitable distribution, (ii) multi-sectoral approach, (iii) utilization of appropriate technology, (iv) focus on prevention, and (v) community participation and involvement. Delivery of primary health care requires an amalgamation of good, preventive and promotive practices along with the assurance of high-quality curative services that are equitably acceptable.

Figure 6.1. The context of holistic health care



Population Stablization through Social Development Approach

Curbing population growth cannot be a goal in itself. It is only a means to development. If development can help in stabilizing population, truly that is a much better and superior solution to one where population growth is curbed in the hope that development will automatically follow. Improvement of health and nutrition on the other hand can be an end in itself and will lead to population stabilization. Surely, this is a better approach. This has been accepted in principle in the National Population Policy (NPP) 2000. The policy framework is based on the belief that people are the most valuable and precious resource of our country and the common agenda of both population and development is the well-being of the people. Unless the mindset of people who manage things changes, the NPP will remain on paper and cannot be implemented in its true spirit. The paradigm shift from 'number' to 'people' has still a long way to go and it is being recognized that the shift to a reproductive health and rights agenda has not been fully internalized. Therefore, there is a need to address deep-rooted mindsets on critical issues relating to population and development. These issues need to be widely disseminated in a correct perspective among various sections of society. Given the situation in Bihar it is a matter of concern and it is becoming increasingly clear that it can be addressed effectively only through a social development approach.

Community Needs Assessment

For making comprehensive primary health care programmes effective the starting point should be Community Needs Assessment (CNA). Micro-planning with CNA can help identify and address the local problems through more acceptable strategies. This decentralized and participatory process of health planning provides space for involvement of Panchayati Raj Institutions, increased interface and interaction between the community and the state, addresses gender concerns, ownership and accountability in health programme implementation. CNA should assess the health needs and demands so that a realistic workload estimate can be made. It should distinguish community and epidemiological priorities. At the village level the outcome of CNA should be a health improvement plan, which ideally needs to be aggregated and included in the district action plan. CNA should also assess the community perception of quality of care and practical indicators for quality of care should be developed. In this exercise it is vital to install a good Health Management Information System (HMIS) for improving the effectiveness of the programme; there will also be emphasis on complete registration of births, marriages, pregnancies, and deaths. Against this backdrop, CNA should be viewed as an important health sector reform initiative and not merely a reporting system.

The need is for greater social investment, wider socio-economic development, strengthening of public health system, and improved governance in order to achieve population stabilization. Social investments help reach the goal of slower population growth.

Strategies for achieving population stabilization should include improving socio-economic indicators such as addressing the needs for maternal care, child health and contraceptive services, education of girls, ensuring a minimum age at marriage of girls, reducing infant mortality and MMR through better health care and immunization, nutrition support to women and children. Improvement in socio-economic indicators for population stabilization should be supported adequately and effectively with strong political commitment, effective IEC strategy, and all-round upgradation of health facilities.

A multi-pronged approach is required for population stabilization, such as (a) strong campaign for delaying age at marriage after 18 years, (b) delaying age of first pregnancy, (c) ensuring institutional delivery, and (d) meeting the unmet demand for contraception.

Delaying Age at Marriage and Spacing

Some of the key approaches in delaying age at marriage and spacing are: (i) empowering women for increased decision making in family life, (ii) provision of health education, information, guidance and counselling services to adolescents, (iii) ensuring greater enrolment and retention of girls in schools, and (iv) options for vocational engagement and livelihood. Specifically for increasing spacing in family planning there needs to be a shift in approach from sterilization to non-sterilization spacing options, increased IUDs and NSVs, and providing comprehensive and safe abortion care. There is need for women-centred preventive and promotive family planning services.

Community monitoring of health services

The NRHM Implementation Framework outlines the need for inclusion of community monitoring or communitization of health services under NRHM. The purpose is to increase efficiency in delivery of the entitlements under NRHM and to build people's participation and direct involvement in monitoring of health services. However, involvement of the community should not be limited to monitoring. It should include community action, i.e. planning and monitoring. It is imperative that efforts are made for building the capacity of the community and the health service providers to jointly undertake planning and monitoring of heath services in Bihar. This will lead to greater accountability and transparency in programme implementation. The process includes direct involvement of self-help groups, PRIs and CBOs. Such process will ensure that the programme addresses people's needs and reaches the underserved and unserved areas. The focus is on decentralized district level planning, implementation and monitoring where CBOs are to play a proactive, effective and meaningful role. Current pilot efforts in community monitoring being undertaken in selected districts in nine states of the country by Population Foundation of India in collaboration with the Ministry of Health and Family Welfare and NGOs attempt to provide lessons in good practices in community monitoring, which can then be replicated on a large scale across the country.

Strengthening Health Service Delivery

A second pillar in improving health care is strengthening health service delivery to be effective and responsive. The aim should be to improve quality and increase coverage of services to reduce infant, child and maternal mortality, establish gender-sensitive quality reproductive and maternal health services especially among the poor and vulnerable, reduce the burden of communicable diseases, especially kala-azar, malaria and TB. In addition, one needs to ensure effective functioning of public primary health care system, fully utilizing existing health care centres rather than increasing infrastructure further.

In order to achieve these, a comprehensive child health strategy needs to be developed wherein the focus should be on reduction of infant, neo-natal mortality and child mortality through Home Based Neo-natal Care (HBNC) and Integrated Management of New Born and Childhood Illness (IMNCI). Secondly, there should be emphasis on complete registration of births and deaths, reduction of malnutrition, reduction of childhood diseases with focus on acute respiratory diseases and diarrhoea, and implementing universal immunization. A special strategy needs to be adopted to reduce the incidence of low birth weight babies.

A gender-sensitive quality reproductive and maternal health care services also need to be ensured. There is wide consensus on the broad determinants of quality: adequate access and availability, and routine and reliable information on the scope of services and what is available at which level. The latter includes the infrastructure and service environment — privacy and confidentiality. Along with accessibility and availability of services, provision of quality care is recognized as a priority area in RCH Programme. Good quality of care creates demand from clients and ensures satisfied clients, who in turn return for services. Quality services are those that are commonly accepted by clients and which meet their needs. While the client perspective focuses

on individuals, the provider and managerial perspectives are equally important. Good quality family welfare services and reproductive technologies that are safe and effective should be promoted. The bottom line is that there are no shortcuts and no quick-fix formulae. The problem of quality cannot be addressed at a micro-level of a project; rather, the entire health delivery system has to gear itself to quality.

Quality of care

It is not enough to provide basic health services. It is equally important to ensure that quality of care at all levels is addressed. Quality of care is a pillar of public health care which ensures a people-oriented and client-centred approach to public health. Currently, there is little or no focus to put into practice processes for providing quality care in the public health system. Better quality of services ensures increased use of the public health system as providing a higher standard of care leads to client satisfaction. Pilot attempts are being made to ensure quality of care in reproductive health services and in other areas of NRHM. Population Foundation of India undertook such a pilot programme in two districts (Gaya and Vaishali) of Bihar in building capacity of the community to access better quality of care. It included not only the aspect of building quality assurance in the system but also including community perception of the quality of services.

The two approaches are to promote institutional deliveries and to provide good and adequate referral support. This includes upgrading FRUs providing 24-hour emergency obstetric and basic obstetric care and strategy for strengthening enforcement of PCPNDT Act along with monitoring of ultrasound clinics.

The third objective is to reduce the burden of communicable diseases. The focus would be to develop disease-specific plans with emphasis on strengthening district-level implementation. It will also include developing an effective epidemiological information system to identify the magnitude and distribution of communicable diseases, especially malaria and kala-azar in different population groups, integrating all communicable disease control programmes at the primary health care and grassroots level, adopting innovative and effective models like IMNCI and HBNC model with community participation, and training ASHAs and retraining Dais and Skilled Birth Attendants in a phased manner.

Strengthening Health Sector Management System

A key approach to strengthening health sector management would include capacity building of staff and decentralized planning. This will entail district-level orientation programmes for all health workers, including ASHA, Trained Birth Attendants and Skilled Birth Attendants, orientation and training of PRIs (elected women representatives of the Panchayats in Bihar constituting more than 50% of the elected representatives) so that they play an effective role, providing necessary support systems for PRIs and ensuring devolution of financial and administrative powers to PRIs.

Other important aspects would be to improve staff availability at the field level by human resource planning through the formation of district cadres, short-term courses for staff, special

initiatives for remote areas, improving the effectiveness of asset management through review of guidelines, ensuring programme quality improvement through external reviews, client surveys, and evidence-based policy changes. The Auxiliary Nurse Midwife (ANM) continues to be the primary service provider. Her responsibilities include immunization, safe delivery (pre- and post-natal check-up of pregnant women), community needs assessment, contraception motivation and distribution, survey of eligible couples, and maintenance of CPR registers. Non-availability of skilled medical personnel, including nurse midwives, remains the major bottleneck to universal access to primary health care.

Intersectoral coordination has to be ensured by establishing an effective and meaningful institutional mechanism for *convergence*. There needs to be increased coordination between various departments such as health, panchayati raj, education, rural development, women and child development, etc. Another aspect of intersectoral coordination includes intra-departmental coordination.

Advocacy with elected representatives

The Panchayati Raj elections held recently in Bihar led to a record number of almost 60% women elected as representatives in the panchayat system. The time has come to involve and harness this group of elected representatives to act as the voices of the community in ensuring better health service delivery at the village, block and district level. There is need for training of PRIs on their role and responsibilities, activate the health subcommittees of panchayats, and form and activate village health and sanitation committees to ensure greater grassroot involvement and monitoring of health services.

The other important aspect is to involve the state legislators cutting across party lines and build their perspective on health issues, especially reproductive health and rights, so that they take greater interest in issues of the health of the people in their constituencies. The Population Foundation of India as part of its advocacy efforts with elected representatives in Bihar helped form the Legislative Forum on Population, Health and Development with the participation of almost 133 MLAs of Bihar. One of the first efforts of the forum was to undertake district-level advocacy efforts on health, beginning with Kishanganj which has the poorest health and social development indicators. The district-level advocacy brought together local MLAs, PRIs, health service providers, the state Health Department and people of the district on a common platform to discuss and identify key areas for action on health. Such initiatives need to be undertaken by donors, NGOs, institutions and the State Government more frequently at the district level so that the district realities and the regional disparities are addressed.

Enhancing demand and utilization of services and bringing equity and gender into the mainstream

The low utilization of government health services in the state, especially by the poor due to lack of access to primary health care services, leads to increasing unmet need, increased regional disparities within the state such as between the districts of the north and the south, and increased gender gap in access to services. A major bottleneck in access to services are the recurrent floods,

particularly in north Bihar districts. It is the poorest people who are the most vulnerable during floods and suffer from outbreaks of epidemics. In order to increase demand and utilization of services the following will have to be ensured.

First would be to remove barriers to utilization of services by poor and marginalized groups. This will need gender and equity strategy with specific focus on enhancing utilization of services, ensuring entitlements to people with disability, and orientation of service providers and field workers on gender equity issues in all training.

A second strategy would be to develop Behaviour Change and Communication (BCC) strategy. Behaviour change is the key to an effective service delivery, especially in unserved and underserved areas. In some areas this would mean raising awareness about service needs. In other words, it also means changing health practices such as breast-feeding practices, high-risk sexual behaviour, etc. BCC is a major component of RCH II and AIDS prevention programme. This would require evaluation of existing information, education and communications activities on their impact on the poor and marginalized through external agencies. There is need to use different media methods and tools with principles of community involvement such as community radio and village wall newspapers.

A third strategy would be to develop public-private partnership (PPP) in health service delivery. A major part of curative health care provision in the state is by the private and corporate sector. There is need to involve this sector in contributing to the public health goals, including the increasingly important goal of ensuring that health care provision does not adversely impact the poor. Quality, efficiency and accountability of private health service providers are badly wanting in the private health sector. The process of increasing PPP would include: (i) developing a basic minimum regulatory framework to register and accredit private health care providers, (ii) framework to ensure that costs and quality remain within reasonable limits and the poor have access especially in emergency situations, (iii) encouraging linkages to public health system, especially for referral and diagnostic health services, (iv) ensuring cost and quality regulation to supplement and not substitute existing public health care in such partnerships, (v) bringing in private capital to contribute to health sector goals and not transfer public assets or resources to private hands, (vi) better access for the poor to tertiary services through risk pooling mechanisms and social insurance linkages, (vii) promoting a partnership with dedicated not-for-profit voluntary sector in health care service provision, and (viii) acting as centres of innovation and excellence in reaching health care to the poor. Scaling up innovative projects in the state on health, for example, the Janani model of social franchising for reproductive child health services, the Pathfinder model of delaying age at marriage and first pregnancy in Bihar, is also required.

Addressing the Needs of Young People

Bihar along with the rest of India has the maximum number of young people in its population. Any programme aimed at bringing about a change in behaviour, attitude or numbers must understand the need for addressing this demographic dividend by including and involving young people in the process, particularly adolescents. There needs to be special focus on the married adolescent so as to influence them and make them capable of decision making for a better family life based on the principles of choice, dignity and rights. The issues in focus are reproductive

NGO initiative

The key challenges mentioned in this chapter can only be achieved by a partnership between government and non-government organizations. To supplement the efforts of the government, the Ministry of Health and Family Welfare introduced the Mother NGO (MNGO) Scheme under the Reproductive and Child Health Programme in the Ninth Five Year Plan. Under this scheme, the Ministry identified and approved grants to MNGOs in allotted districts. These MNGOs then disbursed grants to smaller NGOs called Field NGOs (FNGOs) in the allotted areas. The basic philosophy of this scheme has been nurturing and capacity building. The broad objectives were:

- to address the gaps in information on RCH services in the project areas;
- to build strong institutional capacity at the state, district and field level;
- advocacy and awareness generation.

In keeping with the philosophy of capacity building, NGOs of national repute were identified as Regional Resource Centres (RRCs) to provide technical support to MNGOs. It was found that involving the NGOs in service delivery and addressing cross-cutting issues in the RCH service areas would be needed to make the programme more effective. PFI is the RRC for Bihar and Chhattisgarh. PFI has been playing an important role in providing technical support for NGO capacity enhancement, documentation of promising practices, induction and in-service training, liaison with state governments, updating database on Reproductive and Child Health and development of Management Information Systems (MIS) in these two states. It is synergizing all its programmes in Bihar and Chhattisgarh with the RRC to address RCH issues, from policy advocacy to service delivery.

health information and counselling, youth-friendly services, economic and personal development issues, and community norms and attitudes. The common components are:

- ensuring access to reproductive health services and information;
- emphasizing youth skills development beyond traditional schooling to include life skills, continuing education and livelihood;
- fostering change in family and community norms and attitudes to increase acceptance of solutions that genuinely address youth reproductive health, social, and economic needs;
- developing an integrated youth policy, strategy and plan and setting up youth resource centres at the state and district level;
- enrolling, retaining and vocationalizing formal and non-formal education as part of the strategy to empower adolescent groups;
- forming self-help groups of adolescents for micro-finance/Prime Minister's Rozgar Yojana.

An important aspect in focusing on young people is to improve the health and welfare of young mothers and their children by changing traditional customs of early childbearing. In order

to bring about a reduction in maternal and infant mortality rates and improve the survival and general health of mothers and children, there should be delay in the first pregnancy until the woman is 21 years of age, and space subsequent children by three to five years. Some of the target population is adolescent girls and boys between 15 and 19 years of age, newlywed couples who have not yet had a child, young couples with only one child, and families of young couples.

Demographically, India is one of the youngest countries in the world. Therefore investing in young people's education, nutrition, skill, employment and health assumes urgency and importance. Failure to do so will have long-term repercussions on individual lives, health system, security, demography, economy and development. The challenge is to convert young people into an asset. The state can reap the demographic dividend as it stabilizes the population over the next fifty years.

The consequences of this age structure are twofold. The contribution of population momentum will be to increase the number of births. The keys to slowing population momentum are to affect the age at marriage, delay cohabitation, or delay the age at first pregnancy. Secondly, when birth rates begin to fall, as is happening in some states and sub-regions in India, there is low dependency ratio where there are a large number of working adults and fewer children to care for. This is referred to as a demographic dividend or bonus; because it is assumed that through an investment in employability through skill training, such individuals could theoretically contribute to a country's economic growth and prosperity. Projections by economists indicate that in India roughly eight million young people will look for employment each year.

Currently, in Bihar small pilot efforts are being undertaken to delay age at marriage and first pregnancy by mobilizing youth through groups at the village level, by working with young married couples, building awareness on issues, undertaking advocacy on youth issues at block, district and state level, building leadership capabilities among youth in Bihar, and providing technical assistance to the state government on policies and programmes for young people.

Advocacy on youth issues

The Government of Bihar has drafted the youth policy of Bihar. The draft policy places emphasis on building the capacity of the young people of the state, harnessing their talent, providing them better and suitable livelihood opportunities so that they develop as better human beings and committed and skilled assets for the state and the country. The need is to engage the youth directly at village, block and district levels in developing the implementation plans based on the policy. Currently, various pilot efforts are being undertaken in the state to address the health needs of young people. Intervention research projects on delaying age at marriage, behaviour change communication-focused programme involving married adolescent couples and capacity building of youth-based organizations such as Nehru Yuva Kendra (NYK), National Cadet Corps (NCC). Population Foundation of India undertook a pilot advocacy programme on adolescent reproductive and sexual health issues in Bihar. The programme adopted a bottom-up approach where youth were directly involved in advocating for themselves along with local government officials, teachers, parents, youth organizations and elected representatives. The recommendations from this effort complemented the draft youth policy and helped form the task group on youth issues in Bihar.

Nutrition

Morbidity and mortality are related to high prevalence of malnutrition. The stakeholders recognized young children, adolescents, pregnant and lactating women and elderly as the most vulnerable. The single greatest cause of malnutrition is poverty and the single greatest remedy is equitable development.

- The state should ensure food security to all by strengthening and universalizing the Public Distribution System and promote employment generation schemes.
- Supplementary feeding system should reach all children through the Anganwadi and School Mid Day Meal Programmes.
- Integrated Child Development Scheme (ICDS) should remain the key strategy. The current ICDS Scheme should be strengthened into a comprehensive early childhood care programme with improvements in quality and outreach.
- Reduce malnutrition and under-nutrition by 50% by 2010 and 100% in 2012.
- Every pre-school child should be assured of nutrition, pre-school education and health care and every working mother should be assured of day care support for young children.
- Implement preventive measures against epidemics and recurrent infections such as diarrhoea, cholera, etc. in young children through school health programme.
- Children with special needs such as the physically challenged should be provided special nutrition with a flexible partnership approach.
- Among all these food security measures, public understanding of good dietary habits as suitable to different cultural and economic contexts should be promoted through appropriate nutrition and education programmes.

Addressing Emerging Health Problems

Health problems in Bihar will show a complex epidemiology in future. While we shall continue to have problems of poverty, poor hygiene, poor nutrition, poor sanitation and poor environment, we shall also increasingly experience the problems of development, affluence and modernization. New diseases will come up along with the resurfacing of older diseases with newer trends and patterns. Thus, there will be this 'Double Burden of Disease'. Following are some of the health problems to be tackled in the years ahead.

- malnutrition complicated by increasing chemicalization and adulteration of food;
- waterborne diseases, including diarrhoea, dysentery, gastroenteritis, typhoid, cholera, hepatitis B and parasite infection;
- communicable diseases such as malaria, tuberculosis, leprosy, acute respiratory infection (ARI), and preventable childhood diseases;
- non-communicable diseases, including heart disease, hypertension, diabetes and cancer;

- problems of mental ill health;
- increased addictions and substance abuse problems;
- pollution-related diseases, including allergies, asthma and other hazards;
- problems of the physically challenged;
- health problems of the aged;
- iatrogenic diseases;
- accidents and injuries.

Issues which would further complicate the health problems are increasing environmental pollution and deterioration of ecology, increasing challenge of providing basic environmental sanitation, urbanization, increasing malpractice in medicine and medical care and irrational therapeutics in medicine and medical care.

Conclusion

The slow pace of health sector reforms in Bihar poses a major challenge. Also poverty, social justice and gender issues have not been brought centre stage in health sector reforms. Linking health programmes to poverty alleviation is critical in the context of Bihar because the burden of health services falls disproportionately on the poor. Poverty remains one of the main reasons for untreated illness, thereby resulting in a sharp increase in morbidity. This burden is compounded further in a situation of unequal gender relations on the one hand and unequal social status on the other.

In reality, the health delivery system as it exists today is based on loosely integrated vertical programmes of reproductive and child health, control of communicable diseases, and a stand alone HIV/AIDS prevention/control programme. However, now that NRHM is in place, one can take the opportunity of this programme platform. The NRHM appears to have brought back the primacy of primary health care. It has given prominence of place to what is called 'communitization'. In fact, it is the hallmark of NRHM. Communitization means community ownership in terms of community-based planning, implementation, management and, of course, monitoring.

NRHM fosters a platform for inter-sectoral coordination and collaboration. It also provides and creates a space for decentralized planning. People say that primary health care was tried in our country and failed. In fact, it has never been tried in its true spirit and the concept is as valid and relevant today as it was 29 years ago.

The challenges of development in Bihar are enormous due to persistent poverty, complex social stratification, poor infrastructure and poor governance. Corruption is endemic in all spheres of life in the state. The development challenges must be considered in the light of India's overall development. The state's performance lags seriously behind the national trends and is a significant

contributing factor to the growing gap across states. In Bihar greater transparency and accountability is badly needed in public affairs.

Transparency in the functioning of public health services and their accountability to communities goes hand in hand with improving access and availability of services. Communities need to know their right to health care, so that they make appropriate demands on health care systems. People's demand for services can be improved as part of the provisions of the 73rd and 74th Amendments and the Right to Information Act.

Health relates to everything that goes to constitute human lifestyle and life system. Therefore, the concept of health and health care has to transcend the present narrow technocentric understanding and unethical top-down prescriptive care system. Health is to be holistic and health care is to be for health development of all and actively participatory.

Like any right, health has to be asserted rather than given or taken. Responsibility for health policy development, management and advocacy should not be limited to health professionals. All stakeholders and those contributing to human development and services, including the people, should participate in the process of development. Quality of life cannot be improved without people's participation, involvement and initiative. Preparing the young people of the state to be healthy and productive is crucial for utilizing the available window of opportunity. This is an opportunity to convert 92 million people into a productive asset of society to make Bihar into a developed state, a vibrant economy and society. It is our social responsibility to make health a people's agenda and take it beyond advocacy to the common concern of all in Bihar.

References

Government of Bihar. 'Population Policy – 2002' (draft), Department of Health.

Government of India, 2004. *Bihar – Universal Immunization Programme Review, 2004.*

IIPS (Indian Institute of Population Sciences), 2007. *National Family Health Survey 3, India – 2005-06*, IIPS, Mumbai.

IIPS, 2005. *Reproductive and Child Health District Level Household Survey (RCH-DLHS), 2003-2004*, IIPS, Mumbai.

IIPS, 1999. *National Family Health Survey 2, Bihar – 1998-1999*, IIPS, Mumbai.

IIPS, 1999. *Reproductive and Child Health District Rapid Household Survey (RCH-DRHS), 1998-1999*, IIPS, Mumbai.

IIPS, 1995. *National Family Health Survey 1, Bihar – 1993-1994*, IIPS, Mumbai.

Kundu, Amitabh, 2006. *India Social Development Report*, Council for Social Development, Oxford.

Misra, Rajiv, Rachel Chatterjee and S. Rao, 2003. *India Health Report*, Oxford University Press.

MoHFW (Ministry of Health and Family Welfare), 2007. *Annual Report 2006-2007*, Ministry of Health and Family Welfare, Government of India, New Delhi.

MoHFW, 2007. *Family Welfare Statistics in India 2006*, Ministry of Health and Family Welfare, Government of India.

MoHFW, 2006. *Bulletin of Rural Health Statistics in India*, Special Revised Edition, Infrastructure Division, Ministry of Health and Family Welfare, Government of India.

MoHFW, 2005. *Health Information of India*, Central Bureau of Health Intelligence, Ministry of Health and Family Welfare, Government of India.

MoHFW, 2005. *Mission Document on National Rural Health Mission – 2005*, Ministry of Health and Family Welfare, Government of India, New Delhi.

MoHFW, 2000. *National Population Policy – 2000*, Ministry of Health and Family Welfare, Government of India.

Nayak, S. 2007. *India's Population in the Emerging Global Order*, Xavier Institute of Management, Bhubaneswar.

NIHFW and NACO, 2007. *Annual Sentinel Surveillance for HIV Infection in India, Country Report 2005.*

NIHFW and NACO, 2005. *Annual Sentinel Surveillance for HIV/AIDS Infection in India, Country Report 2005.*

Parekh, Kirit S. and R. Radhakrishna (eds.). *India Development Report, 2004-05*, Indira Gandhi Institute of Development Research, Oxford University Press.

Park, K., 2002. *Park's Textbook of Preventive and Social Medicine*, 19th edn, Banarsidas Bhanot, Jabalpur.

PFI (Population Foundation of India), Bihar State AIDS Control Society and Population Reference Bureau, 2007. *Facts, Figures and Response to HIV/AIDS in Bihar*, Joint United Nations Program on HIV/AIDS.

PFI, 1999. *Training Module on Reproductive and Child Health*, Population Foundation of India.

PFI and Population Reference Bureau, 2007. *The Future Population of India: A long range demographic view.*

Planning Commission 2002. *National Human Development Report 2001*, Government of India.

PRB, 2006. *The World's Youth 2006 Data Sheet*, Population Reference Bureau, Washington D.C.

Ram, F., Chander Shekhar and S.K. Mohanty, 2005. *Human Development: Strengthening district level vital statistics in India*, International Institute Population Science, Mumbai.

Rao, K.L. and S. Nayak, 2006. *Losing Count, Mapping India's Child Sex Ratio*, Population Foundation of India, New Delhi.

Return of the Population Growth Factor – Its impact on the Millennium Development Goals, Report of the hearings by the All Party Parliamentary Group on Population, Development and reproductive health, 2007.

RGI (Registrar General of India), 2007 Maternal Mortality in India 1997-2003, Trends, causes and risk factors, *Sample Registration System*, Registrar General of India, New Delhi.

RGI 2006. *Statistical Report No. 1 of 2004, Sample Registration System*, Registrar General of India, New Delhi.

RGI, 2006. *Population Projection for India and States 2001 to 2026 (Revised in 2006)*, Report of the Technical Group on Population Projection constituted by the National Commission on Population 2006, Registrar General of India, New Delhi.

RGI, 2005. *SRS based abridged life tables*, Registrar General of India 1999-2003, New Delhi.

RGI, 2005. *SRS Bulletin 2003, Sample Registration System*, Registrar General of India, New Delhi.

RGI, 2001. *Primary Census Abstract, Total population: Table A-5, series-I*, Census of India, Registrar General of India, New Delhi.

RGI, 2001. *Report and Tables on Age, C-14, Census of India*, Registrar General of India, New Delhi.

RGI, 1999. *Compendium of India's Fertility and Mortality Indicators 1971-1997, Sample Registration System*, Registrar General of India, New Delhi.

The World Bank, 2007. *Bihar – Towards a Development Strategy, A World Bank Report.*

VHAI, 1997. *Independent Commission on Health in India,* Voluntary Health Association of India, New Delhi.

www.censusindia.net

www.iipsindia.org

www.mohfw.nic.in

www.nhfsindia.org

www.rchindia.org

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